

Bulletin of the
**ENTOMOLOGICAL SOCIETY
OF AMERICA**

Published by the

ENTOMOLOGICAL SOCIETY OF AMERICA

Formed in 1953 by Consolidation of the
American Association of Economic Entomologists
(1889-1952)

and the former
Entomological Society of America (1906-1952)



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BULLETIN
of the
ENTOMOLOGICAL SOCIETY OF AMERICA

Published by
ENTOMOLOGICAL SOCIETY OF AMERICA

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SUSTAINING ASSOCIATES

We wish to welcome the following new Sustaining Associate:

A. L. CASTLE, INC.
P. O. Box 308
Mountain View, California. 1957.

We are preparing to write all 1956 Sustaining Associates in regard to renewing their associateships for 1957. The background of the Sustaining Associate endeavor was reprinted in the September 1956 BULLETIN. We are convinced that this open and above-board approach to industry is right and proper. Listing of the Associates each year in an early issue of the ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA and the JOURNAL OF ECONOMIC ENTOMOLOGY, in the program of the annual meeting and in this column as new or renewal associates come in is of definite advertising value if nothing else. This office is committed to the proposition that industry and industrial entomologists have a place in the advancement of the science on a par with the State and Federal organizations and their entomologists. Commercial entomologists serve and serve well on our Governing Board, as Branch officers and as members of several committees. The support of industry through Sustaining Associateships promotes the dissemination of entomological research and information. Tax supported organizations, in different but no less real ways, promote the same ends.

NECROLOGY

BELLMAN, E. R. 80. Professor of Biology, University of Montreal, Technical Director of Mysto, Inc., and founder of the Canadian Pest Control Operators Association. At Montreal, Quebec, Canada. Sept. 21, 1956.

FLETCHER, ROBERT K. 72. Thirty-year entomologist, Texas A. and M. College System. At his home in Dallas, Texas, October 4, 1956.

LUGENBILL, PHILIP, Sr. 72. Retired U.S.D.A. entomologist. Fellow of the E.S.A. At St. Elizabeth Hospital, Lafayette, Indiana, December 15, 1956.

AUTOGRAPHIA O O

These are the lines of the Editor. Who reads them? And when? Also why? Such are the thoughts of the writer while insomnia's darkness creeps by.

MEETINGS. The meetings column in this issue of the BULLETIN is limited to the Branches of the Society plus the parent Society for 1957. All members are welcome at all meetings. A future date you may want to file away is that of the Sixth Annual Meeting of our Society which will be held at the Hotel Utah, Salt Lake City, Utah, December 1-4, 1958.

TITLES AND ABSTRACTS. The Governing Board at the Third Annual Meeting in Cincinnati adopted September 1 as the permanent annual deadline for submission of titles and abstracts for annual meetings. This was noted in the March 1956 BULLETIN but needs to be repeated. The March BULLETIN each year will list the Program Committee. Titles and abstracts are to be submitted to the Chairman of that Committee.

ENTOMOLOGICAL SOCIETIES. Your attention is called to the paper by C. W. Sabrosky elsewhere in this issue of the BULLETIN. We believe this paper presents information not previously available under one cover. In this connection we should like to invite the attention of the various officers of these organizations to a resolution adopted at the Second Annual Meeting of the Entomological Society of America. This was previously published in the March 1955 issue of the BULLETIN.

"The Executive Secretary read a resolution recommended by the Governing Board concerning affiliated societies as follows:

Resolved:

1. That the Entomological Society of America make provisions for affiliation with local societies and student groups.
2. That affiliation procedures be flexible enough to meet changing conditions and to permit of easy termination should the problem get out of hand.
3. That in order to qualify for affiliation an organization must have been active for at least five years and at least ten of its members or fifty per cent of its membership, whichever is higher, should be members of the E.S.A. at the time affiliation is requested.
4. That former A.A.E.E. affiliates must re-apply for affiliation with the Entomological Society of America.
5. That affiliates will be privileged to submit brief news notes in terms of their general interest to the entomological profession for publication as space permits.
6. That names of affiliates will be published with E.S.A. membership lists in the BULLETIN.
7. That the status of each affiliate be routinely reviewed at intervals of not less than five years.
8. That, having fulfilled other requirements, affiliation requires approval of the Governing Board.
9. That further details and problems relating to affiliation be decided by future governing Boards as they arise, based upon recommendations of the Executive Secretary, who shall be charged with the maintenance of relations with affiliates."

We would be interested in hearing from any local entomological society interested in becoming affiliated with the Entomological Society of America.

ENTOMOLOGICAL SOCIETIES

By CURTIS W. SABROSKY¹

Entomology Research Branch—Agricultural Research Service
United States Department of Agriculture

Introduction

Entomological societies developed early among biological organizations because the tremendous variety and abundance of insect life made specialization inevitable and encouraged the gathering together of people of mutual specialized interests. They began in England with the Aurelian Society, which existed in London at least by 1745, but ended in 1748 after its library and collections burned. The next eighty years saw a series of societies—a second Aurelian Society founded in 1762, Society of Entomologists of London (1780-82), a third Aurelian Society (1801-06), Entomological Society (1806-22), and Entomological Society of Great Britain (1822 and briefly thereafter), mostly a succession of reorganizations. In 1826 the Entomological Club was founded in London, and although reorganized in 1836 and now principally a dining club, it is still the oldest active organization of entomologists. As the crowning step of these early stages, the present Entomological Society of London was formed in 1833.

Meanwhile, in 1832 was founded the Société Entomologique de France. The first society in Germany was the Entomologischer Verein at Stettin, founded in 1837, and it was followed by the Verein für schlesische Insektenkunde (Breslau, 1847). The Nederlandsche Entomologische Vereeniging was founded in 1845. In the 1850's and 1860's entomological societies appeared in rapid succession, including such major ones as the Société Entomologique de Belgique (1855), Berliner Entomologischer Verein (1856), Schweizerische Entomologische Gesellschaft (1858), Societas Entomologica Rossica (1859), Entomologisk Forening in Denmark (1868), and the Società Entomologica Italiana (1868). Since then many other societies, both local and national, have

been organized in all parts of the world, as more people have become interested in insects.

In North America, nearly to the mid-19th century, entomological activity centered in agricultural societies, the American Philosophical Society (1743), natural history societies and lyceas, and academies of science. The most prominent one was the Academy of Natural Sciences of Philadelphia (1812), of which Thomas Say, the "father of American entomology," was a founding member.

Apparently the first society in America to be devoted exclusively to insects was the short-lived Entomological Society of Pennsylvania, founded at York in 1842. Pennsylvania was an early entomological center, especially at Philadelphia, and here in 1859 was founded the oldest existing American entomological society, which was known until 1867 as the Entomological Society of Philadelphia and subsequently as the American Entomological Society. By the beginning of the 20th century the major local or regional societies had been founded—the Brooklyn Entomological Society (1872), Cambridge Entomological Club (1874), Entomological Society of Washington (1884), New York Entomological Society (1892, antedated briefly, 1880-85, by the New York Entomological Club), Pacific Coast Entomological Society (1901, until 1902 known as California Entomological Club; a short-lived predecessor was the California Entomological Society, 1891-92), and the Hawaiian Entomological Society (1904). All the societies sponsor long-established journals and now have membership of national or even international scope, though regular local meetings remain an important activity. Two later societies which began currently active journals are the Florida Entomological Society (1916) and the Kansas Entomological Society (1925).

Other local and usually nonpublishing societies were organized as entomology grew. Among these were societies in many of the larger cities, such as Newark, N. J., Chicago, Ill., and Los Angeles, Calif., and over a dozen state societies, five of which were started between 1954 and 1956. Some universities and colleges have local clubs important for programs

¹I wish to thank the Editor of the *Encyclopedia Americana* for permission to use this account of entomological societies, prepared for their forthcoming edition. I am deeply indebted to the many individuals who have kindly and promptly verified or supplied information used in the appended World List. In particular my thanks are due to S. Kato and his staff at the National Institute of Agricultural Sciences in Tokyo and to K. Yasumatsu for their efforts in completing the list for Japan, to R. Glen and R. H. Wigmore at Ottawa for rounding out the data on Canadian societies, and to H. Sachtleben and staff at the Deutsches Entomologisches Institut in Berlin for adding many details on societies in Central Europe.

and student-faculty-alumni relations, such as Jugatae at Cornell and the Fernald Club at the University of Massachusetts.

Nationally in the United States the Entomological Club of the American Association for the Advancement of Science held its first meeting in Detroit in 1875, continued to meet with the Association through 1905, and finally gave way to the two national entomological societies. The first of these, the American Association of Economic Entomologists, was organized at Toronto, Canada, in 1889 as the Association of Economic Entomologists. Later a desire for a national society emphasizing other phases of entomology led to founding the Entomological Society of America (1906). With two exceptions, these two societies held joint annual meetings until their consolidation on January 1, 1953 as a new Entomological Society of America to include all phases of entomology and to continue all activities and publications of the parent societies. The membership in June 1956 totaled over 3,700. Annual regional meetings are also held by the five Branches of the Society, the Eastern, Cotton States, North Central, Pacific, and Southwestern.

In Canada entomological history partly paralleled and partly intermingled with that in the United States. In 1863, only four years after the founding of the Entomological Society of Philadelphia, an Entomological Society of Canada was founded in Toronto. This first Canadian entomological society initiated in 1868 the publication of the famous journal, the Canadian Entomologist. In 1870 the society changed its name to the Entomological Society of Ontario, but it remained essentially national in scope, and around it developed branches or autonomous affiliates such as those at Toronto (1896), Quebec (1897), British Columbia (1902), Guelph (1905), and Nova Scotia (1914). Canadian entomologists participated significantly in organizing the Association of Economic Entomologists in 1889, and both this and the Entomological Society of America (1906) were essentially societies of both Canada and the United States. In 1950 a second and truly national Entomological Society of Canada was formed, to serve as a link between the seven autonomous regional societies of Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia and the Acadian Entomological Society.

In Latin America development of strictly entomological societies has been comparatively recent. Active publishing societies have been founded in the larger countries—the Sociedade Entomologica do Brasil (1922-45), Sociedad Entomológica de Chile (1922-29), Sociedad Entomológica Argentina (1925), Sociedad Chilena de Entomología (1933), Sociedade Brasileira de Entomologia (1937), and the recent Sociedad Mexicana de Entomología (1952). An early Sociedad Entomológica Argentina (1873-74) was quickly transformed into the Sociedad Zoológica Argentina.

Specialized societies within the field of entomology have also appeared, some for program purposes only, others for publication. Examples in economic entomology are the Insecticide Society of Washington (1934) and the American Mosquito Control Association (1944; 1935-43 as the Eastern Association of Mosquito Control Workers). In noneconomic entomology, specialists have organized the Lepidopterists' Society (1947) and the Coleopterists' Society (1949), both founded in the United States but now international in character, and the International Union for the Study of Social Insects, organized in 1951 at the International Congress of Entomology at Amsterdam. Although there were earlier groupings of specialists, the organization internationally of active specialized societies is a recent development of importance.

The accompanying list is confined to entomological societies, particularly as evidenced by their titles, even though natural history or other societies were or are strongly or predominantly entomological in nature, and sometimes had entomological sections. The list does not include societies in the specialized fields of apiculture and sericulture, commercial societies, and university and college clubs (Jugatae, etc.). It is believed to be fairly complete for North America, but undoubtedly is incomplete for other parts of the world, particularly with reference to local societies. Any additions or corrections will be gratefully received.

The societies are grouped for convenience in five geographical divisions: America North of Mexico (plus Hawaii); Latin America; Europe; Japan; and Africa, Asia (except Japan), and Australasia.

EXPLANATION OF COLUMNS IN THE LIST

NUMBER: For cross-reference and chronology.

SOCIETY: Arrangement is alphabetical in the vernacular (except for Japan), transliterated where necessary, with alphabetization based on the first major word in a society's name. A society that has had two or more names is entered under the latest name, followed in parentheses by alternate and/or translated names. Following in parentheses is explanatory material, beginning with the first year of the latest name, and the years of earlier names. The location (city, state, or country) is given where it is not obvious in the name of the society. Earlier names are cross-referenced.

SERIAL PUBLICATIONS: If the complete name of a society is used in the name of its serial, the society name is not usually repeated in this column, after such words as Proceedings, Revista, Annales, Mitteilungen, etc., although in certain involved cases it may be repeated in abbreviated form for clarity. Serial names that include the society's name have changed along with the sponsoring organization; such changes are to be understood and are not separately indicated here. Alternate names, synonyms, translated names, and remarks are in parentheses.

YEARS: A question mark after a year indicates uncertainty about that date alone; a question mark by itself means date unknown to me. Continued existence up to 1956 is indicated by "—date."

The chronological order of the societies can be found by checking the numbers in the respective tables, as follows:

AMERICA NORTH OF MEXICO (PLUS HAWAII): 23, 4, 22, 22b and 35, 7, 22c, 10, 15, 49, 27 and 48, 30, 18, 8, 50, 22e, 11 and 22d, 3 and 22a and 34, 59, 54, 19 and 28, 6, 36 and 57, 18, 18a and 56, 18d, 47, 1, 32, 41, 52, 42 and 18b, 18c, 24, 39, 16, 12, 18e, 31, 51 and 9, 38, 5, 33, 55 and 53, 14, 21, 40 and 61 and 62, 37, 13 and 45, 20, 25 and 60, 17, 26, 43 and 63, 29 and 44 and 46, 58. Unknown: 2.

LATIN AMERICA: 3, 5 and 8, 4, 2, 7, 1, 6.

EUROPE: 4, 5, 70, 6, 16, 53, 17, 15, 63, 57, 32, 55, 51, 79, 69, 12, 58, 80, 26, 62, 33 and 60, 29, 72, 49, 44, 35, 66, 39 and 41, 19 and 40, 11 and 81, 1 and 76, 31, 61, 46, 37, 10 and 52, 48 and 64 and 67, 28 and 82, 42 and 47, 9, 14 and 45, 25, 13, 18 and 34, 56, 59, 36, 71, 7 and 54 and 68, 74, 43, 2, 75, 3, 77. Unknown: 8, 20-24, 27, 30, 38, 50, 65, 73, 78.

JAPAN: 3, 4, 7, 1 and 19, 11, 8, 5, 15, 13, 12 and 2, 9, 16 and 17, 6, 14, 10. Unknown: 18.

AFRICA, ASIA (EXCEPT JAPAN), AUSTRALASIA: 4, 10, 7, 9, 1, 8, 3, 6. Unknown: 2, 5.

AMERICA NORTH OF MEXICO (PLUS HAWAII)

No.	Society	Years	Serial Publications	Years
1	ACADIAN ENTOMOLOGICAL SOCIETY (1921; 1914-21, Ent. Soc. of Nova Scotia)	1914-25 1949-date	<i>Proceedings</i>	1915-24
2	AJAX (Entomological Club Ajax) (Brooklyn, N.Y.)	1913-54	None	
3	ALBANY ENTOMOLOGICAL SOCIETY (N.Y.) Alberta--see 17 America, Entomological Society of--see 18 American Association for the Advancement of Science, Entomological Club--see 15 American Association of Economic Entomologists-- see 18	1899-?	None	
4	AMERICAN ENTOMOLOGICAL SOCIETY (1867; 1859-67, Ent. Soc. of Philadelphia) (Pa.)	1859-date	<i>The Practical Entomologist Transactions</i> (1868; 1861-67 as <i>Proceedings Ent. Soc. Philadelphia</i>) <i>Entomological News</i> (with the Ent. Section, Academy of Natural Sciences) <i>Memoirs</i> <i>Mosquito News</i>	1865-67 1861-date 1890-date 1916-date 1941-date
5	AMERICAN MOSQUITO CONTROL ASSOCIATION (1944; 1935-43, Eastern Ass'n. of Mosquito Control Workers) (New York, N.Y.)	1935-date		
6	AMERICAN MOSQUITO EXTERMINATION SOCIETY (New York, N.Y.) Association of Cotton States Entomologists--see 18d Association of Economic Entomologists--see 18 Branches, American Association of Economic Entomologists--see 18 a-e Branches, Entomological Society of America--see 18 a-e Branches, Entomological Society of Canada--see 22 a-e British Columbia Entomological Society--see 19	1903-05?	<i>Bulletin Yearbook</i>	1904-05 1903-05
7	BROOKLYN ENTOMOLOGICAL SOCIETY (N.Y.) California Entomological Club (1st)--see 56 California Entomology Club (2nd)--see 52	1872-date	<i>Bulletin</i> (new series) (Bulletin, ser. 1, 1878-85; <i>Entomologica Americana</i> , 1885-90) <i>Entomologica Americana</i> (new series)	1912-date 1926-date
8	CALIFORNIA ENTOMOLOGICAL SOCIETY California--see also 16 and 52	1891-92	None	
9	CALIFORNIA MOSQUITO CONTROL ASSOCIATION	1930-date	<i>Proceedings and Papers</i>	1930-date
10	CAMBRIDGE ENTOMOLOGICAL CLUB (Mass.) Canada, Entomological Society of (1st)--see 22	1874-date	<i>Psyche</i>	1874-date

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No.	Society	Years	Serial Publications	Years
	Canada, Entomological Society of (2nd)—see 20 Central States Entomological Society—see 40			
11	CHICAGO ENTOMOLOGICAL SOCIETY (Ill.)	1897-date	<i>Occasional Memoirs</i>	1900.
12	CLEVELAND ENTOMOLOGICAL SOCIETY (Ohio)	1927-33 or-34	None	
13	COLEOPTERISTS' SOCIETY (Rochester, N.Y., formerly at Washington, D.C.) Cotton States Entomologists or Branch—see 18a	1949-date	<i>The Coleopterists' Bulletin</i> (Independent journal 1947-49)	1947-date
14	DETROIT ENTOMOLOGICAL SOCIETY (Mich.) Eastern Association of Mosquito Control Workers—see 5 Eastern Branch—see 18b Entomological Club Ajax—see 2	1942-51	None	
15	ENTOMOLOGICAL CLUB, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE	1875-1905	None	
16	ENTOMOLOGICAL CLUB OF SOUTHERN CALIFORNIA	1926-date	None	
17	ENTOMOLOGICAL SOCIETY OF ALBERTA	1952-date	<i>Proceedings</i>	1953?-date
18	ENTOMOLOGICAL SOCIETY OF AMERICA (1953; formed by union of Entomological Society of America (1906-52) with American Association of Economic Entomologists (1889-1952), known as the Association of Economic Entomologists 1889-1908; and AAEE 1909-52) (Present headquarters, Washington, D.C.) ENTOMOLOGICAL SOCIETY OF AMERICA, Branches	1889-date	<i>Proceedings, Association of Economic Entomologists</i> <i>Journal of Economic Entomology</i> <i>Annals, Entomological Society of America</i> Publications, Thomas Say Foundation of Entomological Society of America <i>Bulletin</i>	1889-1906 1908-date 1908-date 1916-date 1955-date
18a	COTTON STATES BRANCH (1953; 1908-26, Ass'n. of Cotton States Entomologists; 1926-52, Cotton States Branch, Amer. Ass'n. Econ. Ent.)	1908-date	None	
18b	EASTERN BRANCH (1953; 1920-27, Northeastern Entomologists; 1928-52, Eastern Branch, Amer. Ass'n. Econ. Ent.)	1920-date	None	
18c	NORTH CENTRAL BRANCH (1953; 1921-45, North Central States Entomologists Conference; 1945-52, North Central States Branch, Amer. Ass'n. Econ. Ent.)	1921-date	<i>Proceedings</i> (mimeo.)	
18d	PACIFIC BRANCH (1953; 1909-15, Pacific Slope Assoc. Econ. Entomologists; 1916-52, Pacific Slope Branch, Amer. Ass'n. Econ. Ent.)	1909-date	None	
18e	SOUTHWESTERN BRANCH (1953; 1928-50, Texas Ent. Soc.; 1951-52, Southwestern Branch, Amer. Ass'n. Econ. Ent.)	1928-date	None	

No.	Society	Years	Serial Publications	Years
18e	SOUTHWESTERN BRANCH (1953; 1928-50, Texas Ent. Soc.; 1951-52, Southwestern Branch, Amer. Ass'n. Econ. Ent.)	1928-date	None	
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19	ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA (1913; 1902-13, British Columbia Ent. Soc.; 1902-50?, Branch of Ent. Soc. Ontario) Entomological Society of Canada (1st)—see 22	1902-date	Quarterly Bulletin Proceedings Occasional Papers	1906-08 1911-date 1951-date
20	ENTOMOLOGICAL SOCIETY OF CANADA (2nd)(To serve as link between the seven autonomous regional societies in Canada (Nos. 1, 17, 19, 21, 22, 25, and 26)	1950-date	Canadian Entomologist (1868-1950, by Ent. Soc. of Ontario; 1951-date, joint sponsorship by that society and Ent. Soc. of Canada (2nd); 1953-date, with assistance of Le Ministère de l'Agriculture de la Province de Québec)	1868-date
21	ENTOMOLOGICAL SOCIETY OF MANITOBA Entomological Society of Nova Scotia—see 1	1945-date	Proceedings (mimeo.)	1945-date
22	ENTOMOLOGICAL SOCIETY OF ONTARIO (1871; 1863-71, Ent. Soc. of Canada (1st)	1863-date	Canadian Entomologist (1951-date, jointly sponsored with the Ent. Soc. of Canada (2nd) Annual Reports (Report for 1870 published 1871)	1868-date 1870-date
22a	ENTOMOLOGICAL SOCIETY OF ONTARIO, Branches			
22b	GUELPH BRANCH	1905-06	None	
22c	LONDON BRANCH	1864-81	None	
	MONTREAL BRANCH (Mount Royal Ent. Club merged with it in 1909; in 1951, the Branch became Montreal Section, Ent. Soc. of Quebec)	1873-1951	None	
22d	QUEBEC BRANCH	1897-1909?	None	
22e	TORONTO BRANCH	1896-1924?	None	
23	ENTOMOLOGICAL SOCIETY OF PENNSYLVANIA (1st) (York, Pa.)	1842-44?	None	
24	ENTOMOLOGICAL SOCIETY OF PENNSYLVANIA (2nd) (Harrisburg, Pa.) Entomological Society of Philadelphia—see 4	1924-date	None	
25	ENTOMOLOGICAL SOCIETY OF QUEBEC, or SOCIÉTÉ ENTOMOLOGIQUE DU QUÉBEC (with Sections at Montreal and Quebec, 1951-date)	1951-date	Annals, or Annales	1956-date
26	ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN	1953-date	None	
27	ENTOMOLOGICAL SOCIETY OF WASHINGTON (D.C.)	1884-date	Proceedings Memoirs	1884-date 1939-date
28	ENTOMOLOGICAL SOCIETY OF WESTERN PENNSYLVANIA 1902-1910 (Pittsburgh, Pa.) Entomologischer Verein von Newark—see 49	1902-1910	None	
29	ENTOMOLOGOS, LOS (Ent. Soc. of San Diego, Calif.)	1955-date	None	

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No.	Society	Years	Serial Publications	Years
30	FELDMAN COLLECTING SOCIAL (Combination social and entomological society) (Philadelphia, Pa.)	1887-1926	None	
31	FLORIDA ANTI-MOSQUITO ASSOCIATION	1929-date	Annual Report	1929-date
32	FLORIDA ENTOMOLOGICAL SOCIETY	1916-date	<i>The Florida Entomologist</i> (1920; 1917-19, The Florida Buggist)	1917-date
33	GEORGIA ENTOMOLOGICAL SOCIETY Gaelph Branch—see 22a	1937-date	<i>The Georgia Entomologist</i> (mimeo.)	1942-date
34	HARRIS CLUB, THE (Merged with Cambridge Ent. Club) (Boston, Mass.)	1899-1903	None	
35	HARRIS ENTOMOLOGICAL CLUB (1866, formed nucleus of Section of Entomology, Boston Society of Natural History) (Boston, Mass.)	1864-66	None	
36	HAWAIIAN ENTOMOLOGICAL SOCIETY (Honolulu)	1904-date	<i>Proceedings</i>	1906-date
37	HEINK ENTOMOLOGICAL CLUB (St. Louis, Mo.)	1907-22	None	
38	ILLINOIS MOSQUITO CONTROL ASSOCIATION	1948-date	None	
39	INSECTICIDE SOCIETY OF WASHINGTON (Md. and D.C.)	1934-date	None	
40	KANSAS ENTOMOLOGICAL SOCIETY (Supplemental name, 1931-date, The Central States Ent. Soc.)	1925-date	<i>Journal</i>	1928-date
41	LEPIDOPTERISTS' SOCIETY (New Haven, Conn.) London Branch—see 22b	1947-date	<i>The Lepidopterists' News</i>	1947-date
42	LORQUIN ENTOMOLOGICAL SOCIETY (Outgrowth of Lorquin Nat. Hist. Club, 1913-17) (Los Angeles, Calif.)	1917-date	None	
43	LOUISIANA ENTOMOLOGICAL SOCIETY (New Orleans, La.) 1920-? Manitoba—see 21		None	
44	MICHIGAN ENTOMOLOGICAL SOCIETY	1954-date	<i>Newsletter</i> (mimeo.)	1956-date
45	MISSISSIPPI ENTOMOLOGICAL SOCIETY Montreal Branch—see 22c Mosquito Associations—see 5, 6, 9, 31, 37, 48, 63, 64 Mount Royal Entomological Club—see 22c	1955-date	None	
46	NEW HAVEN ENTOMOLOGICAL SOCIETY (Conn.)	1949-date	None	
47	NEW JERSEY ENTOMOLOGICAL CLUB (New Brunswick, N.J.)	1955-date	None	

5-America North of Mexico

No.	Society	Years	Serial Publications	Years
48	NEW JERSEY MOSQUITO EXTERMINATION ASSOCIATION	1913-date	<i>Proceedings</i>	1914-date
49	NEWARK ENTOMOLOGICAL SOCIETY (1905; 1884-1905, Entomologischer Verein von Newark) (Newark, recently Summit, N. J.)	1884-1947, 1949-date	None	
50	NEW YORK ENTOMOLOGICAL CLUB (N.Y.)	1880-85	<i>Papilio</i> (1885, united with Bulletin Brooklyn Ent. Soc. to form Entomologica Americana)	1881-85
51	NEW YORK ENTOMOLOGICAL SOCIETY (N.Y.) North Central (States) Branch--see 18c North Central States Entomologists Conference--see 18c Northeastern Entomologists--see 18a	1892-date	<i>Journal</i>	1893-date
52	NORTHERN CALIFORNIA ENTOMOLOGICAL CLUB (1954; 1930-54, California Ent. Club (2nd)	1930-date	None	
53	NORTHWEST ASSOCIATION OF HORTICULTURISTS, ENTOMOLOGISTS, AND PLANT PATHOLOGISTS	1918-date	Abstracts of Papers Presented	1935-date
54	NORTHWEST (CANADA) ENTOMOLOGICAL SOCIETY (Transformed 1902 into Territorial Nat. Hist. Soc. (Alberta) Nova Scotia--see 1 Ontario--see 22	1899-1902	None?	
55	OREGON ENTOMOLOGICAL SOCIETY Pacific Branch--see 18c	1939-date	<i>Bulletin</i> (mimeo.)	1939-date
56	PACIFIC COAST ENTOMOLOGICAL SOCIETY (1902; 1901-02, California Ent. Club (1st) Pacific Slope Ass'n. of Econ. Ent.--see 18c Pacific Slope Branch--see 18d Pennsylvania--see 23, 24; also 28 Philadelphia, Entomological Society of--see 4	1901-date	<i>Proceedings</i> (continued in Pan-Pacific Entomologist) <i>Pan-Pacific Entomologist</i> <i>Memoirs</i>	1901-1930 1924-date 1951-date
57	PUGET SOUND ENTOMOLOGICAL SOCIETY (Wash.) Quebec Branch--see 22d Quebec, Entomological Society of--see 25	1939-41	None	
58	QUEBEC SOCIETY FOR THE PROTECTION OF PLANTS	1908-date	<i>Annual Report</i>	1908-date
59	ST. LOUIS ENTOMOLOGICAL CLUB (Mo.) San Diego--see 29 Saskatchewan--see 26 Société Entomologique du Québec--see 25	1904-34	None	

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No.	Society	Years	Serial Publications	Years
60	SOUTH CAROLINA ENTOMOLOGICAL SOCIETY Southwestern Branch--see 18e	1956-date	None	
61	STUDENTS' ENTOMOLOGICAL ASSOCIATION (Philadelphia, Pa.)	1900-01?	<i>The Entomological Student</i>	1900-01
62	SWEADNER ENTOMOLOGICAL SOCIETY (Pittsburgh, Pa.) Texas Entomological Society--see 18e Toronto Branch--see 22e	1951-date	None	
63	UTAH MOSQUITO ABATEMENT ASSOCIATION	1947-date	<i>Proceedings</i>	1948-date
64	VIRGINIA MOSQUITO CONTROL ASSOCIATION Washington, Entomological Society of--see 27	1947-date	None	
65	WASHINGTON STATE ENTOMOLOGICAL SOCIETY Western Pennsylvania, Entomological Society of--see 28	1954-date	<i>Proceedings</i> (mimeo.)	1954-date

The following societies were found too late to be included in the above list.

66	COLUMBUS ENTOMOLOGICAL SOCIETY (Ohio)	1936-date	None	
67	JURUPA ENTOMOLOGY CLUB (Riverside, Calif.)	1953-date	None	
68	OHIO ENTOMOLOGICAL SOCIETY (formerly Entomological Workers in Ohio Institutions)	1917-date	None	
69	SAN DIEGO ENTOMOLOGICAL CLUB (Calif.)	?	None	
70	SUB-TROPICAL ENTOMOLOGISTS OF FLORIDA (Branch of Florida Ent. Soc., 1956-date) (Miami, Fla.)	1955-date	None	

LATIN AMERICA

No.	Society	Years	Serial Publications	Years
	Argentina—see 1, 3, 4			
1	ASOCIACIÓN ARGENTINA DE ARTRÓPODOLOGÍA (Buenos Aires) Brazil—see 7, 8 Chile—see 2, 5 Mexico—see 6	1944-date	<i>Arthropoda</i>	1947-date
2	SOCIEDAD CHILENA DE ENTOMOLOGÍA (Santiago)	1933-date	<i>Revista Chilena de Entomología</i>	1951-date
3	SOCIEDAD ENTOMOLÓGICA ARGENTINA (1st) (Transformed 1874 into the Sociedad Zoológica Argentina (Buenos Aires))	1873-74	<i>Periódico Zoológico</i> (1874 as Periódico Zoológico)	1874-78
4	SOCIEDAD ENTOMOLÓGICA ARGENTINA (2nd)	1925-date	<i>Boletín</i>	1925-31, 1938-date? 1926-date
5	SOCIEDAD ENTOMOLÓGICA DE CHILE (Santiago)	1922-29	<i>Revista</i>	1928-29
6	SOCIEDAD MEXICANA DE ENTOMOLOGIA (México, D.F.)	1952-date	<i>Boletín</i>	1955-date
7	SOCIEDAD BRASILEIRA DE ENTOMOLOGIA (Sao Paulo)	1937-date	<i>Revista</i>	1948-date 1954-date
8	SOCIEDADE ENTOMOLOGICA DO BRASIL (Rio de Janeiro)	1922-45	<i>Boletim</i> <i>Revista Brasileira de Entomologia</i> <i>Boletim</i>	1922-24

EUROPE

No.	Society	Years	Serial Publications	Years
1	ALLGEMEINE ENTOMOLOGISCHE GESELLSCHAFT (1899; 1896-97, Berliner Ent. Gesell.) (Germany)	1896-97. 1899-1904	<i>Allgemeine Zeitschrift für Entomologie</i> (1901-04; 1896-97, illustrierte Wochenschrift für Ent.; 1899-1900, illust. Ztschr. f. Ent. The journal continued 1905-37 as the independent Zeitschrift für wissenschaftliche Insektenbiologie)	1896-1904
2	AMATEUR ENTOMOLOGISTS' SOCIETY, THE (1939?; ? - ?; Entomological Exchange and Correspondence Club) (London)	? - date	<i>The Amateur Entomologist</i> (1939; 1935-36, Jour. Ent. Exchange and Corres. Club; 1937-38, The Entomologists' Bull.) <i>Bulletin</i>	1935-date
3	ARBEITSGEMEINSCHAFT OESTERREICHISCHER ENTOMOLOGEN (als Dachverband für die Vereine "Favorita," "Naturbeobachter," und "Sphinx") (Vienna)	1949-date	<i>Wiener Entomologische Rundschau</i> <i>Entomologisches Nachrichtenblatt Oesterreichischer und Schweizer Entomologen</i> <i>Entomologisches Nachrichtenblatt Tauschbörse (und Mitteilungen) der Arbeitsgemeinschaft Österr. Ent.</i>	1939-date 1949-50 1950-date 1954-date 1952-date
4	AURELIAN SOCIETY (1st) (London)	by 1745-48	None	
5	AURELIAN SOCIETY (2nd) (London)	1762-?	None	
6	AURELIAN SOCIETY (3rd) (London) Austria--see 3, 28, 38, 50, 73, 81, 82	1801-06	None	
7	BADISCHE ENTOMOLOGISCHE VEREINIGUNG (Freiburg i. Br., Germany)	1923?-?	<i>Vereins-Nachrichten</i> <i>Badische Blätter für angewandte Entomologie</i> (1926; 1923-25, Badische Blätter f. Schädlingsbekämpfung) <i>Archiv für Insektenkunde des Oberrheingebietes und der angrenzenden Länder</i> (1926; 1923-25, Mitteilungen Bad. Ent. Ver.)	1923-28 1923-29 1923-30
8	(BUDAPEST, SOCIETY OF ENTOMOLOGISTS AT) (Hungary)	End of 19th cent.		
9	Bulgaria--see 9			
9	Bulgarische Entomologische Gesellschaft--see 9			

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No.	Society	Years	Serial Publications	Years
9	BULGARSKO ENTOMOLOGICHNO DRUZHESTVO (Bulgarische Entomologische Gesellschaft)(Sofia, Bulgaria) České Společnosti Entomologické--see 10	1909-?	<i>Izvestiia (Mitteilungen)</i> (Bul. Soc. Ent. de Bulgarie)	1924-42
10	ČESKOSLOVENSKÉ SPOLEČNOSTI ENTOMOLOGICKÉ (Societas Entomologica Cechosloveniae)(? ; 1904-?, České Společnosti Entomologické (Societas Entomologica Bohemiae)(Prague)	1904-date	Časopis Československé Společnosti Entomologické (Acta Societatis Entomologicae Cechosloveniae) <i>Entomologické Přiručky</i>	1904-date 1905-33
11	CITY OF LONDON ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY (United 1914 with North London Nat. Hist. Soc. to form the London Nat. Hist. Soc.) Comité pour la Protection des Plantes--see 68 Czechoslovakia--see 10 Denmark--see 33	1890?-1913	<i>Transactions</i>	1890-1913
12	DEUTSCHE ENTOMOLOGISCHE GESELLSCHAFT (1881; 1856-80, Berliner Ent. Verein (Ent. Verein in Berlin). After 1880, the society divided into two groups, the Deut. Ent. Gesell., publishing the Deut. Ent. Ztschr., and the Berliner Ent. Verein, publishing the Berliner Ent. Ztschr. The latter group ended in 1913.)(Berlin)	1856-date	<i>Deutsche Entomologische Zeitschrift</i> (Vols. for 1881-87 were numbered 25-30 in continuation of the previous Deut. Ent. Ztschr. (see below); from 1888 on, no volume numbers were used; in 1954, volume numbers began again as new series, vol. 1) <i>Mitteilungen</i> <i>Repertorium Entomologicum</i> (Suppl. to Deut. Ent. Ztschr.) <i>Berliner Entomologische Zeitschrift</i> (Vols. 1-18, 1857-74 and vols. 25-58, 1881-1914; vols 19-24, 1875-80, called the Deut. Ent. Ztschr., q. v., above) <i>Verhandlungen</i> <i>Zeitschrift für Angewandte Entomologie</i> <i>Flugschriften</i> <i>Anzeiger für Schädlingskunde</i>	1881-1943, 1954-date 1930-date 1924-33 (35) 1857-1913 (1914) 1913-36 1914-44, 1949-date 1915-33 1925-date
13	DEUTSCHE GESELLSCHAFT FÜR ANGEWANDTE ENTOMOLOGIE (Berlin)	1913-date	<i>Entomologia</i>	1915-23
14	Dresden, Entomologischer Verein "Iris" zu--see 25 England--see 2, 4-6, 11, 15-17, 44, 46, 53, 55, 57, 70-72 ENTOMOLOGIA ZÜRICH UND UMGEBUNG (Switzerland) Entomological and Natural History Society, South of London--see 72	1911-date	None	1915-23
15	ENTOMOLOGICAL CLUB (London) Entomological Exchange and Correspondence Club--see 2	1826-date	None	1915-23
16	ENTOMOLOGICAL SOCIETY, THE (London)	1806-22	<i>Transactions, Entomological Society of London</i>	1806-12
17	ENTOMOLOGICAL SOCIETY OF GREAT BRITAIN (London)	1822-?	None	

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No.	Society	Years	Serial Publications	Years
	Entomological Society of Hampshire, etc.—see 71			
	Entomological Society of London—see 57			
	Entomological Society of the South of England—see 71			
18	ENTOMOLOGICHESKOE OBSHCHESTVO MOSKVA (Société Entomologique de Moscou)(Merged with Russkoe Ent. Obschestvo as its Moscow branch)(USSR)	1914-24	<i>Izvestiia</i> (Bulletin)	1915-23
19	ENTOMOLOGISCHE GESELLSCHAFT ZU HALLE A. S. (1907; 1886-? , Entomologischer Verein zu Halle a. S.) (Germany)	1886-?, 1907-45?	<i>Korrespondenz-Blatt des Entomologischen Vereins Halle</i> <i>Mitteilungen der Entomologischen Gesellschaft zu Halle</i>	1886. 1909-19, 1934-44
20	ENTOMOLOGISCHE GESELLSCHAFT MAGDEBURG (Germany)	?	?	?
21	ENTOMOLOGISCHER VEREIN ERFURT (Germany)	?	?	?
22	ENTOMOLOGISCHER VEREIN FÜR MÜHLHAUSEN I. TH. (Germany)	?	?	?
23	ENTOMOLOGISCHER VEREIN GOTHA (Germany) Entomologischer Verein in Berlin—see 12	?	?	?
24	ENTOMOLOGISCHER VEREIN IN BREMEN (Germany)	1912-date	<i>Jahresbericht</i> <i>Mitteilungen</i>	1913-38 1927-date
25	ENTOMOLOGISCHER VEREIN "IRIS" ZU DRESDEN (Germany)	1862-1945	<i>Deutsche Entomologische Zeitschrift "Iris"</i> (1902, vol. 15; 1894-88, vol. 1, Correspondenz-Blatt; 1889-1901, vols. 2-14, "Iris"; Deut. Ent. Ztschr., Lepidopterologische Hefte, in conjunction with Deut. Ent. Gesell. in Berlin) <i>Beilage Korrespondenzblatt</i>	1884-1944 1910.
26	ENTOMOLOGISCHER VEREIN KREFELD (Germany)	?	?	?
27	ENTOMOLOGISCHER VEREIN NÜRNBERG (Germany)	?	?	?
28	ENTOMOLOGISCHER VEREIN "POLYXENA" (Vienna)	1906-13	<i>Mitteilungen</i>	1906-13
29	ENTOMOLOGISCHER VEREIN STUTTGART (Germany)	1869-date	None	
30	ENTOMOLOGISCHER VEREIN ULM A. D. D. (Germany) Entomologischer Verein zu Halle a. S.—see 19	?	?	
31	ENTOMOLOGISCHER VEREIN ZU HAMBURG-ALTONA (Later separated into Lepidoptera and Coleoptera sections of the Verein für naturwissenschaftliche Heimatsforschung zu Hamburg) (Germany)	1899-date	<i>Mitteilungen und Berichte</i> <i>Sitzungsberichte und Vorträge</i> (published in various journals) <i>Bombus</i> (published as supplement to the Verhandlungen des Vereins f. naturw. Heimatl. zu Hamburg)	1907-11 1911-38 1937-date

4 - Europe	Society			Years		Serial Publications		Years	
	No.								
32	ENTOMOLOGISCHER VEREIN ZU STETTIN (Germany)	1837-1945				<i>Jahresbericht</i> (Superseded by Ent. Zeitung <i>Stettiner Entomologische Zeitung</i> (1915; 1840-1914, Ent. Zeitung) <i>Linnaea Entomologica</i> (Continuation of Germar's Ztschr. f. die Ent'ologie, 1839-44) <i>Entomologische Meddelelser</i>	1839. 1840-1944 1846-66 1887-date		
33	ENTOMOLOGISK FORENING (Copenhagen)	1868-date				None			
34	ENTOMOLOGISKA BYTESFÖRENINGEN I HELSINGFORS (Exchange society) (Finland)	1914-?							
35	ENTOMOLOGISKA FÖRENINGEN I STOCKHOLM (Sweden)	1879-date				<i>Entomologisk Tidskrift</i> <i>Uppsatser i Praktisk Entomologi</i> (Supplement to Ent. Tidskr.) <i>Entomologbladet</i> (Supplement to Ent. Tidskr.) <i>Notulae Entomologicae</i>	1880-date 1891-1914 1937-date 1921-date		
36	ENTOMOLOGISKA KLUBBEN I HELSINGFORS (Societas Entomologica Helsingforsiensis) (Finland)	1919-date							
37	ENTOMOLOGISKA SÄLLSKAPET I LUND (Societas Entomologica Lundensis) (Sweden)	1903-date				<i>Opuscula Entomologica</i> <i>Opuscula Entomologica, Supplement</i>	1936-date 1938-date		
38	FAVORITA (Entomologischer Verein) (See also 3) (Austria)	?				None?			
39	FENICA, Societas Entomologica--see 75								
40	FRANCE--see 61-63, 65, 66, 77								
41	FRANCE, Société Entomologique de--see 63								
42	GENÈVE (Geneva), Société Entomologique de--see 64								
43	GEVÈVE (Geneva), Société Lépidopterologique de--see 67								
44	GERMANY--see 1, 7, 12, 13, 19-27, 29-32, 39, 41, 42, 47-49, 78, 79								
45	GERS, Société Botanique et Entomologique du--see 61								
46	GOSUDARSTVENNOE VSEROSSIISKOE ENTOMOLOGICHESKOE Obshchestvo--see 80								
47	GOTHA, Entomologischer Verein--see 23								
48	GREAT BRITAIN, Entomological Society of--see 17								
49	GUBEN, Internationales Entomologen-Bund zu--see 42								
50	HALLE A. S., Entomologischer Verein zu, Entomologische Gesellschaft zu--see 19								
51	HAMBURG-ALTONA, Entomologischer Verein zu--see 31								
52	HAMPSHIRE ENTOMOLOGICAL SOCIETY--see 71								

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No.	Society	Years	Serial Publications	Years
	Helsingfors, Entomologiska Byråsektionen i--see 34			
	Helsingforsensis, Societas Entomologica--see 36			
	Hungarica, Societas Entomologica--see 45			
	Hungary--see 8, 45			
	Internationale Vereinigung von Lepidopteren-und Coleopterensammlern--see 41			
	Internationaler Entomologenverein (Brandenburg, Germany)--see 41			
39	(Omitted)			
40	INTERNATIONALER ENTOMOLOGEN-VEREIN (Zürich, Switzerland)	1886-1920?	<i>Societas Entomologica</i> (1921-30, lacks subtitle, Organ für den Int. Ent.-Verein; 1931, merged into Ent. Rundschau, cf. no. 41)	1886-1930
41	INTERNATIONALER ENTOMOLOGISCHER VEREIN (1887; 1884-85, Internationale Vereinigung von Lepidopteren- und Coleopterensammlern; 1885-87, Int. Entomologenverein) (Germany)	1884-date	<i>Entomologische Zeitschrift</i> (1887; 1884-85, Correspondenz-Blatt der Int. Ver. von Lepidop.-und Coleopterensammlern; 1885-87, Die Insektenwelt. In 1936, absorbed the Int. Ent. Ztschr. (1907-36) from the Int. Entomologen-Bund zu Guben (cf. no. 42); in 1939, absorbed Ent. Rundschau, (1884-1906, Insekten-Börse; 1907-08, Ent. Wochenblatt; 1909-39, Ent. Rundschau), which in 1931 had absorbed Societas Entomologica (1886-1930)	1884-1944, 1949-date
42	INTERNATIONALES ENTOMOLOGEN-BUND ZU GUBEN (Guben, Germany)	1907-35	<i>Insektenbräse, Beilage zu Entomologische Zeitschrift</i> (earlier to Ent. Rundschau) <i>Fauna exotica</i> <i>Internationale Entomologische Zeitschrift</i> (merged into Ent. Ztschr., of the Int. Ent. Verein, Frankfurt a. M. (cf. no. 41))	1909-date 1911-13 1907-36
43	JUGOSLOVENSKO ENTOMOLOSHKO DRUŠTVO (Societas Entomologica Jugoslaviae) (1928?; 1926-27?, Entomoloshko Društvo Kral'evine Srba, Khrvata i Slovenatsa (Societas Entomologica Serbo-Croato-Slovena) (Belgrade)	1926-?	<i>Glasnik Jugoslovenskog Entomoloshkog Društva</i> (Acta Societatis Entomologicae Jugoslaviae) (1928; 1926-27, Glasnik Entomoloshkog Društva Kral'evine, etc. (Acta Soc. Ent. Serbo-Croato-Slovena)	1926-31
	Komitetu Ochrany Róslin--see 68			
	Krefeld, Entomologischer Verein--see 26			

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No.	Society	Years	Serial Publications	Years
44	LANCASHIRE AND CHESHIRE ENTOMOLOGICAL SOCIETY (Liverpool, England) Lepidopteren-und Coleopterensammlern, Internationale Vereinigung von--see 39 London, Entomological Society of--see 57 London, Society of Entomologists of--see 70 Lund, Entomologiska Sällskapet i--see 37 Magdeburg, Entomologische Gesellschaft--see 20 Magyar Entomológiai Társaság--see 45	1877-date	Annual Report and Proceedings (1903; 1877-1902, Annual Report)	1877-1917
45	MAGYAR ROVARTANI TÁRSASÁG (Societas Entomologica Hungarica) (Originally, Magyar Entomológiai Társaság) (Budapest)	1910-date	Rovartani Lapok (Independent journal, used as official organ by the society, 1911-18) Folia Entomologica Hungarica (One year, 1929-30, as Folia Societatis Entomologicae Hungaricae) Rovartani Közlemények (Folia Ent. Hung., Nova Series) Proceedings and Transactions (formerly Annual Report and Transactions)	1884-86, 1897-1918, 1922-26 1923-44 1946-date 1902-date
46	MANCHESTER ENTOMOLOGICAL SOCIETY (England) Moscou, Société Entomologique de--see 18 Mühlhausen i. Th., Entomologischer Verein ffr--see 22 Mulhouse, Société Entomologique de--see 65	1902-date		
47	MÜNCHNER COLEOPTEROLOGISCHE GESELLSCHAFT (Combined with Münchner Ent. Gesell. about 1935) (Germany)	1907-1935?	None	
48	MÜNCHNER ENTOMOLOGISCHE GESELLSCHAFT (Cf. 47) (Germany)	1905-date	Mitteilungen Nachrichtenblatt der Bayerischen Entomologen	1910-date 1952-date
49	MÜNCHENER ENTOMOLOGISCHER VEREIN (Germany) Namuroise, Société Entomologique--see 76	1876-82	Mittheilungen	1877-81
50	NATURBEOBACHTER (Entomologischer Verein) (see also 3) (Austria)	?	None?	
51	NEDERLANDSCHE ENTOMOLOGISCHE VEREENIGING (Also known for some part of its existence (e.g., see Mémoires d'Ent.) as the Société Entomologique des Pays-Bas)(Netherlands) Netherlands--see 51	1845-date	Tijdschrift voor Entomologie (1857; 1854-57, Handelingen; 1857 (No. 1), Mémoires d'Ent. de la Soc. Ent. des Pays-Bas) Verslagen der Vergaderingen (Reports of the Meetings) Entomologische Berichten	1854-date 1845-date 1901-date
52	NORSK ENTOMOLOGISK FORENING (Oslo, Norway) Norway--see 52	1904-date	Norsk Entomologisk Tidsskrift	1920-date

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No.	Society	Years	Serial Publications	Years
53	NORWICH ENTOMOLOGICAL SOCIETY (England) Nürnberg, Entomologischer Verein—see 27 Oesterreichischer Entomologischer Verein—see 81 Pays-Bas, Société Entomologique des—see 51 Polaca, Societas Entomologica—see 54 Poland—see 54, 68	by 1810-?	None	
54	POLSKI ZWIĄZEK ENTOMOLOGICZNY (Societas Entomologica Polaca, Société Polonaise des Entomologistes) (Outgrowth of the Section Entomologique de la Société Polonaise des Naturalistes de Kopernik, Lwow Branch, founded 1922) (Lwow, Poland) "Polyxena", Entomologischer Verein—see 28	1923-date	<i>Polskie Pismo Entomologiczne</i> (Bulletin Entomologique de la Pologne) (Vol. 1, 1922, published by the Section Entomologique de la Société Polonaise des Naturalistes de Kopernik)	1922-date
55	PRACTICAL ENTOMOLOGICAL SOCIETY (London) Rossica, Societas Entomologica—see 80	1837?-?	None?	
56	ROSSIESKOE OBSHCHESTVO DEIATELII PO PRIKLADNOI ENTOMOLOGII (Russian Assoc. of Workers in Applied Ent.) (Russia)	1916-?	<i>Zhurnal Prikladnoi Entomologii</i> (Journal of Applied Ent.)	1916.
57	ROYAL ENTOMOLOGICAL SOCIETY OF LONDON (1933; 1833-1933, Ent. Soc. of London) (England)	1833-date	<i>Transactions Proceedings</i> <i>Stylops</i> (continued 1936 as <i>Proceedings, Series B</i>) <i>Proceedings, Series A</i> (General), B (Taxonomic), C (Journal of Meetings)	1834-date 1926-36 1932-35 1936-date
	Russia—see USSR (Russian Assoc. of Workers in Applied Ent.)—see 56 Russkoe Entomologicheskoe Obshchestvo—see 80 Russie, Société Entomologique de—see 80 Schlesische Insektenkunde, Verein für—see 79			
58	SCHWEIZERISCHE ENTOMOLOGISCHE GESELLSCHAFT (Switzerland) Serbo-Croato-Slovena, Societas Entomologica—see 43	1858-date	<i>Mitteilungen</i>	1862-date
59	SOCIEDAD ENTOMOLÓGICA DE ESPAÑA (Spain)	1918-date	<i>Boletín Memorias</i> <i>Bollettino</i> (Buletino through 1921) <i>Atti</i> <i>Memorie</i>	1918-35 1924-35 1869-date 1882-84, 1886-95 1922-date
60	SOCIETÀ ENTOMOLOGICA ITALIANA (Italy) Societas Entomologica Bohemiae—see 10 Societas Entomologica Cechosloveniae—see 10	1868-date		

8-Europe

No.	Society	Years	Serial Publications	Years
	Societas Entomologica Fennica—see 75			
	Societas Entomologica Helsingforsiensis—see 36			
	Societas Entomologica Hungarica—see 45			
	Societas Entomologica Jugoslavica—see 43			
	Societas Entomologica Lundensis—see 37			
	Societas Entomologica Polaca—see 54			
	Societas Entomologica Rossica—see 80			
	Societas Entomologica Serbo-Croato-Slovena—see 43			
	Societas Entomologica Stauroplitanae—see 74			
61	SOCIÉTÉ BOTANIQUE ET ENTOMOLOGIQUE DU GERS (Auch, France)	1901?–?	<i>Bulletin des Vulgarisation des Sciences Naturelles</i>	1901–22
62	SOCIÉTÉ D'INSECTOLOGIE AGRICOLE (Paris) Société Entomologique Belge—see 69 Société Entomologique de Belgique—see 69	1867?–?	<i>L'Insectologie Agricole, Bulletin Insectologique</i>	1867–72
63	SOCIÉTÉ ENTOMOLOGIQUE DE FRANCE (Paris)	1832–date	<i>Annales Bulletin</i> (1841–95 published as part of the <i>Annales</i>) <i>L'Abeille, Journal d'Entomologie</i>	1832–date 1833–date 1864–date
64	SOCIÉTÉ ENTOMOLOGIQUE DE GENÈVE (1946, combined with Soc. Lépidop. de Genève, see No. 67) (Switzerland) Société Entomologique de Moscou—see 18	1905–date	None	
65	SOCIÉTÉ ENTOMOLOGIQUE DE MULHOUSE (France) Société Entomologique de Russie—see 80 Société Entomologique de Staupol—see 74 Société Entomologique des Pays-Bas—see 51 Société Entomologique Namuroise—see 76	?	<i>Bulletin</i>	1945–date
66	SOCIÉTÉ FRANÇAISE D'ENTOMOLOGIE (Caen, France)	1882?–?	<i>Revue d'Entomologie</i>	1882–1910
67	SOCIÉTÉ LÉPIDOPTÉROLOGIQUE DE GENÈVE (1946, combined with Soc. Ent. de Genève, see No. 64) (Switzerland)	1905–45	<i>Bulletin Compte-Rendu</i>	1905–29 1905–32
68	SOCIÉTÉ POLONAISE DE LA PROTECTION DES PLANTES (1929; 1923?–?, Comité pour la Protection des Plantes (Komitetu Ochrony Róslin) (Poland) Société Polonaise des Entomologistes—see 54	1923?–?	<i>Choroby i Szkodniki Róslin Choroby Róslin</i>	1925–26 1929?–?

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No.	Society	Years	Serial Publications	Years
69	SOCIÉTÉ ROYALE D'ENTOMOLOGIE DE BELGIQUE (1955; 1855-63, Soc. Ent. Belge; 1864-1955, Soc. Ent. de Belgique) (Belgium)	1855-date	<i>Bulletin et Annales</i> (continued from <i>Annales</i> , 1857-1924, and <i>Bulletin</i> , 1919-24)	1925-date
70	SOCIETY OF ENTOMOLOGISTS OF LONDON (England)	1780-82	<i>Compte-Rendu Mémoires</i>	1863-91 1892-date
71	SOCIETY FOR BRITISH ENTOMOLOGY (1934; 1921-24, Ent. Soc. of Hampshire and the Isle of Wight; 1924-28, Hampshire Ent. Soc.; 1929, Ent. Soc. of Hampshire and the South of England; 1930-33, Ent. Soc. of the South of England) (Manchester (Formerly at Southampton))	1780-82 1921-date	None <i>Transactions Journal of the Entomological Society of South of England Transactions, Society for British Entomology</i> (1934, Vol. 1 of this title) <i>Journal of the Society for British Entomology</i> (1934, Vol. 1 of this title)	1924-33 1932-33 1934-date 1934-date
72	SOUTH LONDON ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY (? ; 1872-?, Ent. and Nat. Hist. Soc. of the South of London) (England) Spain--see 59	1872-date	<i>Proceedings and Transactions</i> (1933; 1885-1932, Proceedings; 1932-33, Transactions and Proceedings (one vol.)	1885-date
73	SPHINX (ENTOMOLOGISCHER VEREIN) (See also 3) (Austria) Staupopol, Staupopolitanae, Société Entomologique de-- see 74	?	None?	
74	STAVROPOL'SKOE ENTOMOLOGICHESKOE OBSHCHESTVO 1925?-? (Societas Entomologica Staupopolitanae, Société Entomologique de Staupopol) (Staupopol, Caucasus, USSR) Stettin, Entomologischer Verein--see 32 Stockholm, Entomologiska Föreningen i--see 35 Stuttgart, Entomologischer Verein--see 29	1925?-?	<i>Izvestiia</i> (Acta Societatis Entomologicae Staupopolitanae)	1925-38
75	SUOMEN HYÖNTEISTITEELLINEN SEURA (Societas Entomologica Fennica) (Finland)	1935-date	<i>Annales Entomologici Fennici</i> (Suomen Hyön. Aikakaushirja) <i>Acta Entomologica Fennica</i>	1935-date 1947-date
76	UNION DES ENTOMOLOGISTES BELGES (1926; 1896-1925, Soc. Ent. Namuroise) (Namur, Belgium)	1896-date	<i>Lambillionnea: Revue mensuelle de la Union des Entomologistes Belges</i> (1926; 1901-25, Rev. mens. de la Soc. Ent. Namuroise)	1901-date

10-Europe

No.	Society	Years	Serial Publications	Years
77	L'UNION INTERNATIONALE POUR L'ÉTUDE DES INSECTES SOCIAUX (Paris) USSR—see 18, 56, 74, 80	1951-date	<i>Bulletin édité par la Section Française de l'Union Internationale</i> , etc. <i>Insectes Sociaux</i> (Bul. de l'Union Int., etc.)	1952-53 1954-date
78	VEREIN FÜR INSEKTENKUNDE (Frankfurt a. M., Germany)	?		
79	VEREIN FÜR SCHLESISCHE INSEKTENKUNDE (Breslau, Germany)	1847-1945	<i>Zeitschrift für Entomologie</i> (1847-1907, 1927-44; 1908-26, Jahresheft des Vereins für schles. Insektenkunde) <i>Entomologische Miscellen</i>	1847-1944
80	VSESOIUZNOE ENTOMOLOGICHESKOE OBSHCHESTVO (? : 1859-1932, Russkoe Entomologicheskoe Obshchestvo (Societas Entomologica Rossica; Société Entomologique de Russie; 1933- ? , Gosudarstvennoe Vserossiiskoe Entomologicheskoe Obshchestvo) (St. Petersburg-Leningrad, Russia)	1859-date	<i>Trudy</i> (1951; 1861-81, Horae Societatis Entomologicae Rossicae; 1882-1916, 1932, Trudy Russkago Ent. Obshch. (Horae Soc. Ent. Rossicae) <i>Trudy Russkago Entomologicheskogo Obshchestva</i> (vols. 1-2 same as for Horae, above) <i>Entomologicheskoe Obozrenie</i> (Revue d'Entomologie de l'URSS) (1933; 1901-17, 1922-30, Russkoe Ent. Obozrenie (Revue Russe d'Ent.); vols. 1901-05 published at Yaroslavl, then taken over by the society and published at St. Petersburg)	1874 1861-1916, 1932 1951-date 1861-82 1901-17, 1922-30, 1933 1935-38, 1945-date
81	WIENER ENTOMOLOGISCHE GESELLSCHAFT (1943; 1890-1919, Wiener Entomologischer Verein; 1916-39, Oesterreichischer Entomologen-Verein; 1940-42, Wiener Entomologen-Verein) (Vienna) Wiener Entomologischer Verein—see 81 Wiener Entomologen-Verein—see 81	1890-date	<i>Jahresbericht des Wiener Entomologischen Verein</i> <i>Zeitschrift der Wiener Entomologischen Gesellschaft</i> (1943; 1916-39, Ztschr. Oest. Ent.-Vereins; 1940-42, Ztschr. des Wiener Ent. Ver.) <i>Abhandlungen</i>	1891-1919 (1924) 1916-43, 1946-date 1938-date
82	WIENER KOLEOPTEROLOGEN-VEREIN (1922, combined with Sektion für Koleopterologie der zool.-bot. Gesell. in Wien) (Vienna) Zürich und Umgebung, Entomologia—see 14	1906-1922?	<i>Coleopterologische Rundschau</i>	1912-date

Note: Undoubtedly many smaller or less well known societies in Europe were missed in compiling the above list. The following, all of which have been found mentioned in the late 1850's in England, came to my attention too late to be included above: Chelsea Entomological Society, East Lancashire Entomologists' Society, Entomological Society of Cambridge, Entomological Society of Sheffield, Junior British Entomological Society (or Junior Entomological Society of London) (founded 1857), Macclesfield Entomological Society (founded 1858), Manchester Entomological Society (founded 1857), Northern Entomological Society (Liverpool), Oxford Entomological Society, and the York Entomological Society (possibly two different societies under this name).

JAPAN

No.	Society	Years	Serial Publications	Years
	(Arachnological Society Eastern Asia)—see 18			
1	BUTTERFLY HUNTERS' CLUB (Fukuoka)	1929-date	<i>Zephyrus</i>	1929-47 (1953)
2	(ENTOMOLOGICAL SOCIETY OF ESSA) ("Essa" = the provinces of Echigo and Sado) (Niigata)	1946-date	(Transactions)	1946-date
3	ENTOMOLOGICAL SOCIETY OF JAPAN (1st) (Kyoto)	1915-19	<i>Entomological Magazine</i> (Kontyûgaku Zasshi)	1915-19
4	ENTOMOLOGICAL SOCIETY OF JAPAN (2nd) (1946?; 1917-34, Tokyo Ent. Soc.; 1935, Nippon Ent. Soc.; 1935-46?, Ent. Soc. of Nippon) (Tokyo)	1917-date	<i>Kontyû</i> (or <i>Konchu</i>)	1926-44, 1947-date
5	ENTOMOLOGICAL SOCIETY OF NAGOYA (Nagoya)	1937-40	<i>The Study of Insects</i>	1937-40
6	Entomological Society of Nippon—see 4			
6	ENTOMOLOGICAL SOCIETY OF SHINSHU (Ueda, Nagano Pref.)	1951-date	<i>New Entomologist</i> (Trans. Shinshu Ent. Soc.)	1951-date
	(Entomological Society of Tokyo)—see 20			
	Essa, Entomological Society of—see 2			
7	FUKUOKA ENTOMOLOGICAL SOCIETY (Fukuoka)	1928-date	<i>Mushi</i> (1st)	1928-date
8	INSECT LOVERS' ASSOCIATION, THE (Tokyo)	1933-date	<i>The Entomological World</i> (Kontyû-Kai, or <i>Konchû Kai</i>)	1933-43, 1954-date
	Japan, Entomological Society of—see 3, 4			
	Japan, Lepidopterological Society of—see 14			
9	JAPANESE SOCIETY FOR THE STUDY OF INSECTS (Tokyo)	1949-date	<i>The Chûhō</i> (or <i>Tyûhō</i>) <i>Seitai Konchu</i> (The Insect Ecology)	1949-date 1949-date
10	JAPANESE SOCIETY OF APPLIED ENTOMOLOGY AND ZOOLOGY (To combine Japanese societies of applied entomology (see 16) and applied zoology) (Tokyo)	Begins 1957		
11	KANSAI ENTOMOLOGICAL SOCIETY (Osaka)	1930-date	<i>Transactions</i> (Kansai Kontyûgakkai Kaihō) <i>Kansai Konchu Zasshi</i>	1930-44, 1950-date 1933-39
12	KINKI COLEOPTEROLOGICAL SOCIETY (Kinki Kochu, or <i>Kotyû</i> , Dôkôkai (Osaka)	1946-date	<i>Transactions</i> (Kinki Kôtyû Dôkôkai Kaihō) (continued in the following) <i>Entomological Review of Japan</i> (Kontyûgaku Hyōron) (Independent journal, 1948-49; combined with <i>Transactions</i> , 1950-date)	1946-49 1948-date

Kinki Kochu (or *Kotyû*) Dôkôkai—see 12

2 - Japan			
No.	Society	Years	Serial Publications
13	KYOTO ENTOMOLOGICAL SOCIETY (Kyoto)	1955-date	<i>Transactions (Akitu)</i> (vols. 1-3, 1937-42 of Akitu publ. by Takeuchi Ent. Lab., Kyoto)
14	LEPIDOPTEROLOGICAL SOCIETY OF JAPAN (briefly, 1945-?, as Nippon Lepidopterological Society) (Kyoto)	1945-date	<i>Butterflies and Moths</i> (Trans. Lepidop. Soc. Japan) (1945, Trans. Nippon Lepidop. Soc. (Nippon Rinshigakkai Kaihō)) <i>Bulletin Lepidopterological Society Japan</i> (Nippon Rinshigakkai Kenkyū-Hokoku)
15	MOTH LOVERS' SOCIETY, THE (Tokyo) Nagoya, Entomological Society of--see 5 Nippon Entomological Society, or Entomological Society of Nippon--see 4 Nippon Lepidopterological Society--see 14 Nippon Oyo Konchu Gakkai--see 16	1953-date.	<i>Tinea</i>
16	NIPPON SOCIETY OF APPLIED ENTOMOLOGY (Nippon Oyo Konchu Gakkai) (Beginning 1957 to be combined with a similar society for Applied Zoology, see 10) (Tokyo) North Japan, Society of Plant Protection of--see 18	1938-56	<i>Ôyô-Kontyû</i> (or Oyo-Konchu, or Ôyô-Kontyû)
17	SHIKOKU ENTOMOLOGICAL SOCIETY (Matsuyama) Shinshu, Entomological Society of--see 6	1950-date	<i>Transactions</i> (Shikoku Kontyûgakkai Kaihō)
18	SOCIETY OF PLANT PROTECTION OF NORTH JAPAN (Omagari, Akita Pref.)	1950-date	<i>Annual Report</i> (Kita-Nihon Byôgaityû Kenkyûkai Nenpō) <i>Special Reports</i> (Kita-Nihon Byôgaityû Kenkyûkai Tokubetu-Hokoku)
19	TOA KUMO GAKKAI (The Arachnological Society of Eastern Asia) (Tokyo) Tokyo Entomological Society, or Entomological Society of--see 4 or 20	? - date	<i>Acta Arachnologica</i> (Kumo Gakku Zasshi)
20	TOKYO MUSHINOKAI (Entomological Society of Tokyo) (Tokyo)	1929-32	<i>Mushi</i> (2nd) <i>Scientific Reports of the Tokyo Mushinokai</i>

AFRICA, ASIA (EXCEPT JAPAN), AUSTRALASIA

No.	Society	Years	Serial Publications	Years
	Africa--see 8, 10			
1	ASOCIO DE INSEKTA INTERESO (Nantung, Kiangsu Prov., China) Australia--see 4, 5, 7 China--see 1, 2 Egypt--see 10	1935-37?	<i>Insekto Interesa</i>	1935-37
2	ENTOMOLOGICAL SOCIETY OF CHINA (Nanking)	?	<i>Entomological News</i>	1947-date?
3	ENTOMOLOGICAL SOCIETY OF INDIA (New Delhi)	1938-date	<i>Indian Journal of Entomology Memoirs</i>	1939-date 1945-date
4	ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES (1st) (Sydney)	1862-73?	<i>Transactions (Merged into Transactions Royal Society of New South Wales)</i>	1862-73
5	ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES (2nd)	?	?	
6	ENTOMOLOGICAL SOCIETY OF NEW ZEALAND	1952-date	<i>The New Zealand Entomologist</i>	1952-date
7	ENTOMOLOGICAL SOCIETY OF QUEENSLAND	1923-date	Minutes of Meetings (mimeog.)	
8	ENTOMOLOGICAL SOCIETY OF SOUTHERN AFRICA (Pretoria)	1937-date	<i>Journal Memoirs South African Insect Life</i>	1939-date 1947-date 1945
	Entomologische Vereniging in Indonesië--see 9 India--see 3 Indonesia--see 9			
9	MADJALLAH PERKUMPALAN ENTOMOLOGI DI INDONESIA (Entomological Society of Indonesia) (? ; 1929-34, Section of the Nederlandsche Ent. Vereniging; 1935-45?, Nederlandsch-Indische Entomologische Vereniging; 1945?-?, Entomologische Vereniging in Indonesië) (Bogor)(Buiten-zorg) Nederlandsch-Indische Ent. Vereniging--see 9 New South Wales--see 4, 5 New Zealand--see 6 Queensland--see 7	1929-date	<i>Entomologische Mededeelingen van Nederlandsch-Indië IDEA</i>	1935-41 1950-date
10	SOCIÉTÉ ENTOMOLOGIQUE D'EGYPTE (1954; 1907-22, same title as latest; 1923-37, Société Royale Entomologique d'Egypte; 1938-54, Société Fouad Ier d'Entomologie)(Cairo) Société Fouad Ier d'Entomologie--see 10 Southern Africa--see 8	1907-date	<i>Bulletin Mémoires</i>	1908-date 1908-1937

THE TRAINING OF A PROFESSIONAL ENTOMOLOGIST

STANLEY B. FREEBORN
Provost, University of California at Davis

The serious mistake that I made in agreeing to prepare this paper was including in the title the word "professional." One definition after another failed to stand the test of trial. A definition such as "one who uses his knowledge of entomology for occupational purposes" would include an illiterate "bee tree" hunter. The other extreme might limit the field to the holders of Ph.D.'s. Neither of these categories fits the large number of professional personnel in whom we are interested. I finally came up with a definition which satisfies me. A professional is one who can do independent, creative occupational tasks without supervision. The key word of the definition is "creative." It implies that the professional is a mental mastercraftsman, a person who can manipulate ideas in his field with the same facility that a craftsman uses his tools.

The attainment of this proficiency is generally, but not necessarily, through training in educational institutions, and a short flash-back through the history of higher education in this country may make our solution simpler.

Up to the 1860's, higher education in this country was limited to those who sought to prepare themselves for the law, the ministry or for teaching. Eliot of Harvard broke through the classical barrier and introduced there the new sciences that were flourishing in Germany along with a modified elective system that opened wide vistas of interest to inquiring young minds. The educational respectability of Harvard encouraged even the most timid or conservative colleges to undertake adventures with the sciences, first the natural ones and then the biological ones at a slightly later date. It is interesting to note that at the University of California, after chemistry had won itself a place and had become well enough established to have a building all its own, the first real professor of zoology was offered refuge in a combination classroom, office and laboratory in the basement of the chemistry building.

Another important landmark in American higher education came in 1862 when Abraham Lincoln signed the Morrill Act which created the Land-Grant Colleges for the training of the industrial classes with state and federal support, and with emphasis on agriculture and engineering, but without excluding classical studies.

Every state in the Union capitalized on this opportunity and higher education became a possibility for myriads of young men and women who wished to professionalize their interests in fields other than teaching, law or the ministry.

With the advent of teaching scientific agriculture, it was only natural that the farmers' most obvious enemies, the insects, should be given prominent treatment. The earliest college courses in entomology in the United States—at Maine and at Cornell—were largely concerned with insect control, although the teachers were primarily systematists. Thus it is understandable that our greatest progress, as well as the popular conception of entomology in the United States, is that of insect control.

Today I believe we are facing another crossroad in the training of entomologists. To illustrate the problem let me make a bold statement that may sound boastful but which is really a tribute to the progress of entomology. I doubt very seriously if there is an entomologist alive today, no matter how renowned, that has at his command as large a percentage of the known knowledge of entomology as

the average B.S. graduate in entomology of my vintage had forty plus years ago.

The schools have tried to keep up conscientiously with the overwhelming accumulation of entomological knowledge through the proliferation of courses and subject matter content to the extent that broad courses of general education have been crowded out of the curriculum to the point that the usefulness of our graduate is reduced to specific technical specialties that definitely limit the graduate's general usefulness in their organizations.

The proliferation of courses and subject matter is not restricted to the entomological courses. Where general chemistry was once adequate for an entomology major, today's graduate must have, in addition, organic and at least a beginning course in biochemistry in order to understand modern insect toxicology and physiology. Mathematics must progress through calculus in order to handle statistics adequately, and genetics has risen as a "must."

The wise merchant lays in a stock of goods for which there is a ready demand. It behooves us to look to our market before we fashion our product.

The demand at the present time in order of priority is (1) industry (2) governmental (state and federal) (3) teaching, and (4) museum work.

Industry absorbs the graduates with the widest differentiations in training. The chemical industry leads the field with graduates going into sales, development or research. At the bachelor's level, sales offers the greatest opportunity and for the candidate who has a flair for public relations the greatest opportunity for leadership in the industry, regardless of whether he has had graduate work or not. The average graduate, however, for some unknown reason, hesitates to "lose face" in a sales job whenever he can obtain a subordinate job in development or research in which he is definitely handicapped by lack of graduate work.

I think we are making a grave mistake when we fail to encourage a goodly number of our bright young entomologists who have a good record in student activities to enter the sales field when they attain their bachelor's degree. Time after time I have seen potentially top flight salesmen and executives made into mediocre research men because of the supposed prestige accompanying the Ph.D. degree.

In my book, the Ph.D. degree in entomology is a rather accurate yardstick of accomplishment in research for men under 35. After that it is meaningless except for the occasional position where it is required by regulation. By this I mean that the work record of a 35-year-old entomologist should indicate just as accurately his potential ability as the acquisition of the degree.

From what I have just said I hope that no one has the idea that I have a low opinion of the Ph.D. degree. It is the union card of the young scientists and the absolute essential for a young entomologist who chooses a career of teaching or research. The road is long and tortuous and full of hurdles for the youngster who aspires to do research or teach without a doctor's degree. A relatively short period in a good graduate school is the freeway through this maze of obstacles.

We laugh among ourselves when we while away the hours at commencement by reading the titles of doctors' dissertations in the program which seem to get more and more specialized and insignificant

every year. Sometimes I think that it is a mistake to print them, as it gives the public a very false impression of what the candidate has been doing during the past few years. Beside demonstrating some proficiency in at least two foreign languages and strengthening his understanding and facility in several fields ancillary to his major interest, he has prepared himself for oral examination in a broad field of entomology and widely related fields. The preparation for this examination is terrifying in the possibilities of what questions might be asked and is the real hurdle to the degree. In addition to this comes the thesis, a dissertation on original research that must be defended as to soundness of facts and theories before a faculty committee.

In any first class graduate school a Ph.D. degree in entomology means far more than the thesis. The thesis simply represents one facet—the culmination of a piece of original research work. Behind that is broad training in entomology and related fields and a wide and effective reading knowledge of an area of scientific thought. It is a certificate of promise, the springboard of the future researcher.

How should the four undergraduate years be spent? Recent surveys of the undergraduate preparation of our men of science show that a surprisingly large percentage were graduates of relatively small and often liberal arts colleges where the opportunities for a multiplicity of technical entomological courses were entirely lacking, but where sound preparation in the basic natural and physical sciences and the liberal arts were available.

My prescription for undergraduate courses in entomology is very short. It consists of five courses:

1. General entomology
2. Advanced taxonomy
3. Combined insect anatomy and physiology
4. Insect ecology
5. Summer practice.

The general entomology would include an introduction to all the specialized fields—classification, structure, physiology, ecology, biological control, agricultural and medical entomology and the beneficial effects of insects. The laboratory would be devoted to the recognition of the various families of insects. In my college this course would be frankly a proselyting device to introduce a relatively large number of students to the fascinations of the field in the hope that every year a few of the outstanding participants might be lured into the field of entomology.

Taxonomy. The logical arrangement of the subject matter is the basic starting point of any human activity. This truism is particularly accurate in all branches of entomology. The world's worst entomological mistakes have originated almost exclusively in faulty taxonomy. The ground rules of zoological nomenclature and at least an avocation in the systematics of some group of insects should be included in the program of every entomologist.

Anatomy and Physiology. External anatomy goes hand in hand with taxonomy and serves to explain the landmarks and the vagaries of configuration that fall into logical sequences once they are understood. Internal anatomy and physiology when taught together become a fascinating introduction to some of the most intriguing and ingenious devices of nature.

Ecology. Here we can develop the combination of all our knowledge of taxonomy, anatomy and physiology into a dynamic picture of how a specific insect fits into a given environment. It is the very heart of man's understanding and control of insects.

Summer Practice. This is a capstone course that should occur during the vacation following the junior year. It may be a prolonged collecting camp that

specializes on taxonomic work; it may be survey work; it may be in connection with experiment station research, but it should bring the student face to face with living insects and the way they live and interact with other organisms. It is important that this work should be supervised by the keenest minds and the best and most enthusiastic teachers that the department possesses because it is at this point that entomologists are made.

I would add only one entomological course to this list of five specifically for the undergraduate who is planning to enter business at the end of four years. That would be Economic Entomology as a springboard for his work in sales of agricultural products.

This proposal that I have advanced amounts to less than 20 per cent of the units generally required for a bachelor's degree. The 80 per cent that are left are barely enough to acquire the natural and biological sciences that are basic to progress in one's entomological thinking, to acquire knowledge of the world in which we live and above all the art of communicating with our fellow men.

The fortunate student who knows his goal exactly when he enters college or makes up his mind soon thereafter can select for himself a tailor-made program of study that might, for instance, add for a prospective insecticide industrialist some additional economics, accounting and business law. The youngster who knows that he seeks a research career in toxicology could substitute for these, additional work in physical or colloidal chemistry during his undergraduate years in order to save time later on in his graduate work.

The entomological sections of most college catalogs are cluttered with what I call *ad hoc* courses. They are designed for intensive study of small fragments of entomological endeavor such as "Insects affecting seed crops", "Coccidology" or even "Culicidology." They are handy capsule-type offerings that gather the available literature together in easily digested form for the student to gulp down without the exercise of much more intelligence than that of a parrot. However, when the student is deluded into taking these courses he is restricting the offerings that he can obtain *only* in college.

This is the crux of my thesis. If an entomologist is worth his salt he is going to be an avid student of his field all the rest of his life. College is only an introduction. His undergraduate training should be a thorough indoctrination in the basic elements of his field where his appetite is whetted to keep him always abreast of his field of interest. There should be ample time devoted to the sciences that are basic to the practice of entomology so he is fluent in their languages and can keep up with their literature intelligently. And lastly, although I have inferred it before, a large portion of his curriculum should be devoted to the study of how the great figures of history developed their ideas and communicated them to their fellow men and posterity; for even more important than being a good entomologist is being a good citizen and a good father.

ARNOLD MALLIS

Among the highlights of the Twenty-Third annual convention of the National Pest Control Association in Detroit on October 22-25, 1956 was the election of Arnold Mallis to Honorary Membership. Mr. Mallis is an entomologist with the Gulf Research and Development Corporation in Pittsburgh, Pa., and is the author of the well-known and widely used *Handbook of Pest Control* which he revised in 1954. We are pleased to congratulate a loyal member of the Entomological Society of America on this well-merited honor.

ZOOLOGICAL NOMENCLATURE

Notice of proposed use of the Plenary Powers in certain cases for the avoidance of confusion and the validation of current nomenclatorial practice (A.(n.s.)32)

Notice is hereby given that the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers is involved in applications relating to the under-mentioned names included in Part 10 of Volume 12 of the *Bulletin of Zoological Nomenclature*, which will be published on 31st October 1956:

- (1) *Ennerinurus* Emmerich, 1844, and *Odontochile* Hawle & Corda, 1847, designation of a type species for, in harmony with accustomed usage; *punctatus* Wahlenberg, 1821 (*Entomos-tracites*), validation of (Class Trilobita) (Z.N.(S.)1059);
- (2) *Cupido* Schrank, 1801, designation of a type species for, in harmony with accustomed usage (Class Insecta, Order Lepidoptera) (Z.N.(S.)1138);
- (3) *jurtina* Linnaeus, 1758 (*Papilio*), grant of precedence to, over *janira* Linnaeus, 1758 (*Papilio*); EPINEPHELDI Tutt, 1896, suppression of (Class Insecta, Order Lepidoptera) (Z.N.(S.)1142);
- (4) *venulosa* Laurentius, 1768 (*Hyla*), determination of (Class Amphibia) (Z.N.(S.)771).

2. Attention is also drawn to the proposed adoption of a *Declaration* regarding the method to be followed in determining the relative precedence to be accorded to two or more names for family-group taxa published in the same book and on the same date (Z.N.(S.)1141).

3. The present Notice is given in pursuance of the decisions taken on the recommendation of the International Commission on Zoological Nomenclature, by the Thirteenth International Congress of Zoology, Paris, July 1948 (see *Bull. Zool. Nomencl.* 4:51-56, 57-59; *ibid.* 5:5-13, 131).

4. Any specialist who may desire to comment on any of the foregoing applications is invited to do so in writing to the Secretary to the International Commission (Address: 28 Park Village East, Regent's Park, London, N.W.1, England) as soon as possible. Every such comment should be clearly marked with the Commission's File Number as given in the present Notice, and sent in duplicate.

5. If received in sufficient time before the commencement by the International Commission of voting on the application in question, comments received in response to the present Notice will be published in the *Bulletin of Zoological Nomenclature*; comments received too late to be so published will be brought to the attention of the International Commission at the time of the commencement of voting on the application in question.

6. Under the decision by the International Congress of Zoology specified in paragraph 3 above, the period within which comments on the applications covered by the present Notice are receivable is a period of six calendar months calculated from the date of publication of the relevant part of the *Bulletin of Zoological Nomenclature*. The part now in question will be published on 31st October 1956. In consequence any comments on the applications published in this part should reach the Secretariat of the International Commission at the latest by 30th April 1957.

FRANCIS HEMMING

Secretary to the International Commission
on Zoological Nomenclature

16th October 1956

PROGRAM OUTLINE FOR 21ST ANNUAL PEST CONTROL OPERATORS CONFERENCE

Purdue University, Lafayette, Indiana

January 28-February 1, 1957

Sunday, January 27, Afternoon—Registration at Purdue Union Building

Monday, January 28

*Full day orientation program for those attending conference for the first time.

Special program for old timers.

Evening open for State meetings and other special groups.

Tuesday, January 29—"Pest of the Year—Cockroaches"

Six sessions developed to discuss life histories, resistance, research, and control techniques of common species of cockroaches.

Evening: Civil Defense as it relates to the duties of the pest control operator.

Wednesday, January 30

Morning: Business equipment for office management. This will be a discussion of equipment and business methods by authorities in the field.

Afternoon: Demonstration session on new techniques in applying pesticides.

Evening: The Miller Bill and Food and Drug Laws; their relationship to the pest control operator.

Thursday, January 31

Morning: Discussion session on *estimating* and *pricing* in pest control contracts. Open session on entomology problems.

Afternoon: New techniques in rodent control. Safety procedures with pesticides.

Evening: Banquet—Top notch entertainment and speaker.

Friday, February 1

Morning: New approaches to termite control with special emphasis on slab construction.

Conference ends at 11:00 a.m.

For further details contact Dr. John V. Osmun, Department of Entomology, Purdue University, Lafayette, Indiana.

R. C. ROARK

On November 28, 1956, some 140 friends of Dr. R. C. Roark gave him an appropriate send off upon his retirement from more than 40 years of service in the U. S. Department of Agriculture. Dr. Roark's well-known work with rotenone is only one of the many outstanding contributions which he and his co-workers have made to economic entomology. For many years he and his Division (now Section) have been an island of chemists surrounded by entomologists. Out of this splendid cooperation have come many milestones in the discovery, analysis, synthesis and formulation of insecticides. For all this entomology and pesticide chemistry owe much to Dr. Roark. May his winters under the Florida sun be as pleasant and calm as his well-known disposition.

S. A. Hall has been named as successor to Dr. Roark as head of the Pesticide Chemicals Research Section. Congratulations to a loyal Society member.

MEETINGS

BIRMINGHAM, ALABAMA. Tutwiler Hotel. February 4-6, 1957. The Thirty-First Annual Meeting, Cotton States Branch, Entomological Society of America. Secretary-Treasurer, W. G. Eden, Department of Zoology-Entomology, Alabama Polytechnic Institute, Auburn, Alabama.

SAN ANTONIO, TEXAS. Gunter Hotel. March 10-12, 1957. The Fifth Annual Meeting, Southwestern Branch, Entomological Society of America. Secretary-Treasurer, S. W. Clark, Room 1701, 811 Rusk Ave., Houston 2, Texas.

DES MOINES, IOWA. The Savery Hotel. March 27-29, 1957. Twelfth Annual Meeting, North Central Branch, Entomological Society of America. Secretary-Treasurer, C. W. Wingo, 102 Whitten Hall, Columbia, Missouri.

PORTLAND, OREGON. Multnomah Hotel. June 26-28, 1957. Forty-First Annual Meeting, Pacific Branch, Entomological Society of America. Secretary-Treasurer, H. H. Keifer, 1112 Swanston Drive, Sacramento 14, California.

NEW YORK, NEW YORK. Commodore Hotel. November 25-26, 1957. The Twenty-Ninth Annual Meeting, Eastern Branch, Entomological Society of America. Secretary-Treasurer, B. F. Driggers, New Jersey Agricultural Experiment Station, New Brunswick, New Jersey.

MEMPHIS, TENNESSEE. Hotel Peabody. December 2-5, 1957. The Fifth Annual Meeting of the Entomological Society of America. President, H. M. Armistage, 1617 41st Street, Sacramento 19, California; Chairman, Local Arrangements Committee, H. G. Johnston, National Cotton Council, Memphis, Tennessee; Executive Secretary, R. H. Nelson, 1530 P Street, N.W., Washington 5, D. C.

THE PERMANENT ANNUAL DEADLINE FOR SUBMISSION OF TITLES AND ABSTRACTS TO THE CHAIRMAN OF THE PROGRAM COMMITTEE FOR THE ANNUAL MEETINGS OF THE SOCIETY IS SEPTEMBER 1.

INTERNATIONAL ABSTRACTS OF BIOLOGICAL SCIENCES

The title of the journal *British Abstracts of Medical Sciences* published by the Council of Biological and Medical Abstracts Ltd., 4 and 5 Fitzroy Square, London W1, England, has been changed to *International Abstracts of Biological Sciences*.

International Abstracts of Biological Sciences abstracts the world literature in the following fields: Anatomy, Animal Behaviour, Biochemistry, Biophysics, Cytology, Embryology, Endocrinology, Epidemiology, Experimental Biology, Genetics, Haematology, Histochemistry, Histology, Immunology, Microbiology, Nutrition, Odontology, Parasitology, Pathology, Pharmacology, Physical Anthropology, Physiology, Radiation Effects, Toxicology and Viruses.

J. M. GINSBURG

Joseph M. Ginsburg from the Entomology Department, Rutgers University, is spending a year in Israel. He was appointed by the Research Foundation of the State University of New York to serve on Point IV program, sponsored by the I.C.A. While on leave of absence from the University, he will be connected with the Israel Ministry of Agriculture. Mail will reach him c/o U. S. Embassy, Agricultural Division, Tel-Aviv, Israel.

SCARCITY OF ENTOMOLOGISTS

By B. A. PORTER

The demand for entomologists is increasing rapidly, and now greatly exceeds the number that are being trained. Insects cause tremendous losses to the farmers, processors, and dealers in agricultural commodities. Such losses have been estimated at four billion dollars a year. They are also major factors in the transmission of numerous diseases of human beings and livestock. The problems of controlling these insects are becoming increasingly difficult in spite of the development of many new and highly potent insecticides. A selection process seems to be going on whereby the insects of a given species that are more readily killed are eliminated by the insecticides used, and the surviving population is, on the average, much harder to kill.

In the Federal service, the shortage of entomologists is evidenced by the fact that the Civil Service Commission is at the present time unable to supply lists of candidates for many jobs that should be filled. Some positions have remained vacant for a year or more while a search has been made for qualified candidates. Sometimes a dozen or more letters of inquiry have gone out without yielding a single candidate.

The shortage of entomologists is particularly acute in the phases of the profession dealing with fundamental studies of insect physiology and toxicology, studies of insects in relation to the transmission of plant diseases, and in the control of insects by utilization of insect diseases. These phases of entomology are expanding rapidly and the specialized training of entomologists in these disciplines has not expanded accordingly.

ELECTIONS

PRESIDENT-ELECT. On the initial ballot J. T. Creighton, R. L. Metcalf and Alvah Peterson were the three candidates with the most votes. Since none had a majority a run-off ballot was necessary. R. L. Metcalf was chosen in the run-off. He will serve as President-Elect in 1957, President in 1958 and on the Governing Board as immediate Past President in 1959.

GOVERNING BOARD. The two new members of the Board elected were Commander K. L. Knight for Section D and M. P. Jones for Section E. These with the new Branch representatives, O. I. Snapp for Cotton States and E. H. Littooy for the Pacific Branch will take office at the end of the 1956 annual meeting and serve through the 1959 annual meeting.

HONORARY MEMBERS. J. J. Davis and E. M. Walker were elected to Honorary Membership. These outstanding entomologists well deserve the honor.

BALLOT COUNTING. We wish to thank the Ballot Counting Committees who carefully checked and recorded the votes in the two elections. For the initial ballot the committee consisted of J. R. Foster, R. E. Hamman and K. A. Haines, chairman. For the run-off ballot the committee members were F. P. Harrison, M. D. Leonard and R. W. Sherman, chairman. On the first ballot 1,899 votes were cast while the count for the run-off was 2,197.

SOUTHERN CALIFORNIA ENTOMOLOGY CLUB

The attention of our members in southern California is called to this club which holds quarterly meetings. In June 1956 E. H. Coe, 185 South Alvarado St., Los Angeles 57, became Chairman. The Secretary is R. E. Campbell, Box 70, Whittier.

H. M. ARMITAGE

The California Board of Agriculture in session at Davis in October 1956 presented a resolution of congratulations to Horace Morton Armitage, retired chief of the Bureau of Entomology, California Department of Agriculture, for his more than 43 years of service to agriculture. A scroll relating important contributions which Mr. Armitage rendered to the agricultural industry of California was presented on behalf of the board by A. J. McFadden, president. Mr. Armitage retired on November 1, 1955. The resolution particularly cited Mr. Armitage for his work in eradication of the Mexican bean beetle in California and for notable progress in the campaign against the Khapra beetle.

Mr. Armitage is the 1957 president of the Entomological Society of America. We congratulate him upon this citation which was well deserved.

THE LALOR FOUNDATION

The Lalor Foundation has announced 40 faculty awards for research in biology for the summer of 1957. These awards are made to the younger college and university staff and faculty members. The upper age limit for appointment is 40 years.

The awards will usually not exceed \$900 for a single man or woman, \$1,100 for a married person working at his home institution, and \$1,250 for a married person whose principal program is at another institution. Transportation and other expenses are for the account of the award holder.

Awards of interest to entomologists are the following:

M. E. JACOBS, Duke University. Studies on melanism in *Drosophila melanogaster*. At Duke University, Department of Zoology.

PETER KARLSON, Max Planck Institute of Biochemistry and University of Tübingen, Germany. Studies on the molting hormones of arthropods. At the Marine Biological Laboratory, Woods Hole.

A. D. LEES, Agricultural Research Council, Cambridge, England. Photoperiodic receptors in insects. At the Marine Biological Laboratory, Woods Hole.

W. H. TELFER, University of Pennsylvania. Membrane penetration by blood proteins in a moth. At the University of Pennsylvania, Department of Zoology.

W. G. VAN DER KLOOT, Harvard University. Pupal diapause and the control of neurosecretion. At Harvard and Cornell Universities, Departments of Zoology.

1955 FUNGICIDE TESTS

"Results of 1955 Fungicide Tests" reprinted from a series of articles appearing in *Agricultural Chemicals*, April through June, may be purchased in bound and covered form for \$1.00 per copy by sending orders with remittance to Dr. A. G. Newhall, Department of Plant Pathology, College of Agriculture, Cornell University, Ithaca, New York. The publication of these results is under the sponsorship of the *American Phytopathological Society*. It is a continuation of the publication of results formerly provided through a Supplement of the Plant Disease Reporter, Plant Disease Epidemics and Identification Section, U. S. Department of Agriculture.

The Temporary Advisory Committee on Collecting and Disseminating Data on New Fungicide Tests of the *American Phytopathological Society* arranged for the recent publication of data and the continuation of a program for annual publications of Fungicide Test Results in the future. Dr. A. G. Newhall, Department of Plant Pathology, Cornell University, Ithaca, New York, will be in charge of this project during the current year.

A. I. BOURNE

Professor Arthur I. Bourne retired October 31, 1956 from the Department of Entomology, University of Massachusetts, after 46 years of service. The Twenty-Fifth Anniversary issue of the Fernald Club Yearbook, January 1956, was dedicated to Professor Bourne. He is a Life Member of the present Entomological Society of America and since joining the American Association of Economic Entomologists in 1910 has been one of our most active boosters having served in several important offices. We wish him all the best in his retirement and trust that we may continue to have the advantages of his counsel.

J. CHESTER BRADLEY

At the Tenth International Congress of Entomology at Montreal last August, Prof. Emeritus J. Chester Bradley was elected an honorary life member of the congresses. The only other North American to hold this honor is Prof. Emeritus O. A. Johannsen, also of the State College of Agriculture, Cornell.

Prof. Bradley is also a member of the permanent committee that serves as a liaison between the congresses, which are held once in four years. This was the second to be held outside Europe, the fourth congress having been held in Ithaca in 1928.

Dr. Bradley was a charter member of the former Entomological Society of America and became a Fellow in 1914. He is one of our Emeritus Members and we are pleased to note this honor to him.

ENTOMOLOGY IN ACTION

Inspired by Herman Mayeux, immediate past president of the *Florida Entomological Society*, Mr. Lewis Wright, Jr., as chairman of a committee on "Entomology in Action", has collected a series of about 60 2x2 color slides and prepared a talk on the subject, "Entomology in Action."

This talk is designed for presentation to High School Assemblies, 4H Clubs, Future Farmer Associations and similar young peoples' meetings. The scope of entomological interest is briefly discussed. Several phases of the entomological profession are described beginning with research and continuing with biological control, extension, teaching, taxonomy, regulatory and plant quarantine, military entomology, public health entomology and commercial entomology. The concluding paragraph invites young people to train for the profession of entomology.

This is an excellent approach to the problem of attracting high caliber youngsters into the profession and deserves wide recognition and use. Members of the Florida Entomological Society are presenting this illustrated talk to various youth groups all over the state and it is being very well received. Any one interested should write to M. Lewis Wright, Jr., State Board of Health, Bureau of Entomology, P. O. Box 210, Jacksonville, Florida.

John W. Wilson

H. L. SEAMANS

Hod Seamans has retired from the Division of Entomology, Canadian Department of Agriculture. A large group of his friends and associates celebrated the event just prior to the Tenth International Congress of Entomology in Montreal last August. A 40-year member of this Society, he is one of our most loyal and devoted Canadian fellow workers. We wish him all the best in his retirement and hope that his team always wins the World Series.

D. J. CAFFREY

Mr. D. J. Caffrey, Assistant Head of Truck Crop and Garden Insect Section, Entomology Research Branch, U.S.D.A., retired after more than 43 years service in the Department on November 30, 1956. His retirement was properly celebrated by 126 friends and co-workers at the Beltsville Log Lodge on September 27. Don Caffrey is a 45-year member of this Society and he has all our best wishes.

L. B. Reed became Assistant Head of the Section upon Mr. Caffrey's retirement. E. A. Taylor took Mr. Reed's place as staff assistant. These Society members have our congratulations.

NATIONAL PEST CONTROL ASSOCIATION

Dr. Ralph E. Heal, Executive Secretary of the National Pest Control Association has announced the appointment of R. L. Showalter as his Executive Assistant effective January 2, 1957. Mr. Showalter, a pest control operator in Abilene, Texas, has been Executive Secretary of the Texas Pest Control Association.

Dr. Heal also announced that arrangements are being made to move the headquarters N.P.C.A. from 30 Church St., New York to the William O. Buettner Memorial Building at 250 West Jersey St., Elizabeth, N. J. It is expected that the move will be made early in 1957. Ralph is chairman of the Local Arrangements Committee for the 1956 meeting of the E. S. A. in New York. We extend best wishes to another outstanding member.

BAILEY B. PEPPER

Dr. Pepper, Chairman of the Entomology Department of the Agricultural Experiment Station at Rutgers University, New Brunswick, N. J., recently celebrated his 25th anniversary at Rutgers. Nearly 100 of his co-workers and friends attended a celebration in honor of the event on October 10, 1956. Dr. Pepper is a 25-year member of this Society, a member of the Governing Board and a consistent worker for the advancement of all phases of entomology. His entire staff and all entomology graduate students at Rutgers are members of the Society. We extend our congratulations to an outstanding condiment of the profession.

TEN COMMANDMENTS FOR TECHNICAL WRITERS

1. Thou shalt remember thy readers all the days of thy life; for without readers thy words are as naught.
2. Thou shalt not forsake the time-honored virtue of simplicity.
3. Thou shalt not abuse the third person passive.
4. Thou shalt not dangle thy participles; neither shall thou misplace thy modifiers.
5. Thou shalt not commit monotony.
6. Thou shalt not cloud thy message with a miasma of technical jargon.
7. Thou shalt not hide the fruits of thy research beneath excess verbiage; neither shalt thou obscure thy conclusions with vague generalities.
8. Thou shalt not resent helpful advice from thy editors, reviewers, and critics.
9. Thou shalt consider also the views of the layman, for his is an insight often unknown to technocrats.
10. Thou shalt write and *rewrite* without tiring, for such is the key to improvement.

(Reprint from Science, April 15, 1955)

ENTOMOLOGICAL SOCIETY OF SOUTHERN AFRICA

The above Society will be 20 years old in 1957 and has now over 200 members. Special issues of the *Journal* and *Memoirs* will appear to commemorate this event. President of the Society is Mr. H. A. F. Lea, Locust Control and Research Section, South African Department of Agriculture, and one of the vice presidents is Dr. E. McC. Callan, Rhodes University, Grahamstown, South Africa. Dr. Callan, who was formerly on the staff of the Imperial College of Tropical Agriculture, Trinidad, has been a member of the Entomological Society of America since 1943.

OUT-OF-PRINT PUBLICATIONS AGAIN AVAILABLE

The New York State Museum announces that many out-of-print items from their stored stock of publications of the State Entomologist's office have recently been made available. A price list of these publications, together with more recent titles, may be obtained from the office of the State Museum, State Education Building, Albany, N. Y. There are some 64 titles, beginning with Lintner's report on the May beetle, dated 1888, and including the several memoirs and circulars on aquatic insects by Betten, Felt, Johannsen, Metcalf and Sanderson, Needham; Felt's *Key to American Insect Galls* and *Key to Gall Midges*; Felt's publications on forest insects, and others.

ANNUAL REVIEW OF ENTOMOLOGY

The orders for ANNUAL REVIEW OF ENTOMOLOGY, Volume 2, received in the Washington office by the December deadline have been sent to the publisher. Copies will be in the mail in February. We wish to thank the 735 members who placed their orders. As explained in the paper by Dr. Steinhaus, BULLETIN OF THE ENTOMOLOGICAL SOCIETY OF AMERICA 1(2): 1, 1955 the Society profits by these pre-deadline orders which, of course, reflects to the advantage of the entire membership.

Members who failed to order are urged to do so now. These late orders will be sent in about February 1 and March 1. While the Society does not profit from these late orders we wish to promote the sales of the ANNUAL REVIEW OF ENTOMOLOGY wherever possible. You may place a standing order with us to receive all volumes of this work as published if you wish.

All member orders for the ANNUAL REVIEW OF ENTOMOLOGY are to be sent to our Washington office.

Entomological Society of America
1530 P Street, N.W.
Washington 5, D. C.

Bulletin of the
**ENTOMOLOGICAL SOCIETY
OF AMERICA**



Program Issue

Yellow Pages

Program and Abstracts

White Pages

Current Papers and Notes

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Bulletin of the

ENTOMOLOGICAL SOCIETY OF AMERICA



Program Issue

Yellow Pages	Program and Abstracts
White Pages	Current Papers and Notes

USE OF ILLUSTRATIVE MATERIAL IN PRESENTING SUBJECT MATTER

M. P. JONES, U. S. Department of Agriculture, Extension Service¹

The greatest problem of the program committee in recent meetings has been to accommodate all the papers and still permit the authors sufficient time properly to cover their subjects. It would appear therefore that more time will need to be spent by the authors in analyzing and summarizing the data so that they can be presented in abstract form. The few people who are interested in the details may make direct contacts with the author.

In presenting a paper, there are certain tools which can be used to help the speaker clarify his remarks. It must be remembered that people learn by what they see, by what they hear, or what they take part in. Each individual possesses all of these characteristics, but one is usually dominant. Judging by the tools used in modern advertising, the public takes heed of what they see. Merchants exhibit their wares whenever and wherever possible, and follow those displays with pictures. They realize that one picture tells more than columns of descriptive matter. We entomologists are directed in our purchases by modern advertising, so why shouldn't we use some of the same tools in displaying our wares? In meetings people are too prone to rely on the spoken word when an exhibit, chart, lantern slide or film strip might reduce the amount of discussion necessary.

INCORRECT USE OF EXHIBITS.—With reference to exhibits, anything which is large enough to be seen from all parts of the hall can be exhibited at the time the speaker is discussing it. The exhibit should then be placed out of sight. It is a mistake to pass around during the discussion a series of photographs or small exhibits. They most certainly distract the attention of the audience. As an example: if a person talking to 100 people passes around 10 pictures, it is certain that 10 per cent of his listeners may just as well have left the room. In addition to these 10, the persons on the left of each of these attempt to get one last look at the picture, and the persons to the right, and possibly to the rear of them, attempt to get a preview. As a result, the speaker has lost about 40 per cent of his audience. In other words, when we take into account all the disruptions, the speaker has invited almost half the people to leave while he is talking. Too often the following speaker is obliged to talk to absentees due to those same pictures. Exhibits of the smaller type should be placed on exhibition in the space provided for them.

LANTERN SLIDES AND CHARTS.—Lantern slides and charts afford a very satisfactory means of presenting subject matter, providing they are properly prepared.

The following suggestions offer in a brief way, points to be considered in making and presenting lantern slides.

SIZE OF PROJECTED IMAGE.—It appears that an image approximately 5 by 6 feet, projected from a lantern slide, is the average size for most meetings. If the slide has been properly made, the text will be visible the full length of a large hall. By planning for an image of this size, it is easy to arrange a desirable screen. If it is necessary to use a screen much smaller than 4 by 5 feet, the image is too small to be plainly visible. Assuming the field of a slide to be 2½ by 3 inches, the enlargement will be about 24 diameters when projected to an image of 5 by 6 feet on the screen.

STYLE OF LETTERING.—Authors of books on lettering state that by lettering one can express ideas such as femininity, antiquity, novelty, command, etc. Each style of lettering has a place but the plain heavy block, or old Egyptian type of hand lettering, in black, is to be preferred in making lantern slides. It is easy to read and will carry farther than any other style of lettering. Gunned black letters may be substituted for hand lettering. Typewriting, script, italics and fancy types should be avoided because they are difficult to read and do not carry well. There are many substitutes which may suffice for small group meetings, but do not use them beyond their limitations. Figure 1 illustrates the style of lettering to be preferred and some of the styles to avoid.

STYLE OF LETTERING

**HEAVY BLOCK
LETTERING
PREFERRED**

AVOID
ITALICS
FANCY
Script
Typewriting

Fig. 1.—Style of lettering to be preferred and some of the styles to avoid.

SIZE OF LETTERING.—Extensive tests by competent people have shown that the average person can read 1-inch letters at about 30 feet, 1½-inch letters at about 65 feet, 2-inch letters at about 100 feet, and 2½-inch letters at about 130 feet. When a lantern slide is projected to a 5 by 6 image on the screen, it has been enlarged 24 diameters. It should be borne in mind that even though typewritten letters, natural size on the slide, have been sufficiently enlarged to be read at great distances, the original density is not present and they will fade out.

SPACING.—Should slides typify a 10-cent store window or should they have the distinction of the more exclusive department stores? Most certainly the user of a slide who crowds his data defeats his own purpose. It is the object which stands out that leaves the lasting impression. Figure 2 illustrates the proper spacing and the undesirable effect produced by crowding the letters and words.

HEADINGS AND SUBHEADINGS.—These should be brief, preferably not more than four words, and they should embody only the general thought. Too often headings are so long and so involved that by the time the public has deciphered them the speaker must pass on to the next slide, in which case the essential data are lost. When continuing slides are necessary, repeat the headings. It is better, however, to boil down the data so as to eliminate the necessity for successive slides giving long drawn-out tables.

GRAPHS.—Through a long educational process the public is becoming acquainted with trend lines, but again there is a limit to the number of these which one can comprehend in a few minutes. This is especially true if the lines intersect at several places. More than three trend lines per slide are apt to be confusing and should not be used.

¹ Reprinted from Journal of Economic Entomology 1937, 30 (3):461

SPACING	
LEAVE AMPLE SPACE	CROWDED WORDS AND LETTERS IN EACH WORD MAKE READING DIFFICULT. USE ONLY SUMMA- RIES OF TABLES. MUST THIS SPACE BE USED ALSO?

Fig. 2.—Proper spacing and the undesirable effect produced by crowding the letters and words.

Either the column, the bar, or the pie can be used to supplant tables, and if properly selected will help the public to visualize the comparison of one thing with another. These are used to clarify the information, and they should not be made complicated by working in too many factors. It is better to cover three factors well than to attempt to present a greater number of factors through different forms of cross hatching or shadings. A sketch of the object being discussed helps others to visualize the point; sketches of trees, animals, or other hosts of insects with proper notations helps to show infestations at different locations on the host. If objects are used to show comparative abundance, only one dimension should be used. People can't conceive increased volume. It is better to show increased quantities rather than volume.

TABLES.—In a flock of sheep the few scattered black ones will catch the eye of the passerby or casual observer much more quickly than the much greater number of white ones. So it is with tabular material—a great mass of figures becomes so confusing that each set of numbers is just another sheep, but totals or averages would stand out and leave an impression such as did the black sheep. The person who illustrates his talk with slides containing large amounts of tabular data invariably hunts over the figures on the screen and finally points out a few representative sets of figures. Since this is the case, why should the slide contain more figures than those pointed out for representatives, or still better, the averages or totals of the detailed data?

It is a common fallacy to include on a slide data which are foreign to the subject just because they are available. For instance, if in presenting information on codling moth control, four columns of summary data would represent a 100 per cent effective chart. To add a column of equal size on aphids just because the data were available would at once reduce the effectiveness of the codling moth data on the chart to 80 per cent.

Thirty letters and spaces across the slide and not more than 10 lines vertically leave ample space for emphasis and the letters can be large and heavy enough to be read at great distances.

Slides in succession have been presented on which the position of columns or tables has been shifted. If one starts with data concerning the check plots on the left, experiment No. 1 in the second position and experiment No. 2 in the third position, this same order should be retained in succeeding slides.

PHOTOGRAPHS.—In using photographs select those which show very clearly the point to be emphasized. If necessary, trim or mat out unrelated subjects

such as telephone poles, people, rocks, etc. In taking pictures to be used in making lantern slides, strive for a contrasting background. It takes a certain amount of high lights and shadows to make pictures, but be careful of the extremes. Have a side light on the object being photographed. Don't have the light from behind the camera. It is much better to have a close-up of a few representative sample types of injury than to have several plants showing a variation, in which case no one type stands out. In most cases the public is well enough informed to know there is a variation from the one shown. Be careful to exclude stakes, poles, equipment and people, except when they have a direct bearing on the subject. When people and equipment are necessary, make sure the person is showing some action by operating the equipment rather than posing for his portrait.

Graphs, tables and photographs could be used here to illustrate the foregoing paragraphs. It is not deemed necessary, however, to use space in this way, in view of the fact that in this and other copies of the JOURNAL OF ECONOMIC ENTOMOLOGY will be found graphs, tables and photographs to illustrate the points in question.

USING SLIDES.—Material for slides should be carefully checked before being made into a slide to avoid the necessity for explanation at the time of presentation. Each slide should be marked with a tab to assist the lantern operator in case the slides get mixed. This tab should be placed on the lower left corner of the slide facing the maker or operator so that upon one's looking through the slide the written material is in position for reading. The speaker should outline in a general way what the slide is to show before taking up the details. A long pointer or light indicator should always be available so that the speaker can stand to the side of the screen and place the pointer on each feature referred to. The speaker should face the audience at all times while talking, even though a pause may be necessary to point out the features referred to.

One alternative for reducing the amount of material on each slide is to use more slides, but it should be remembered that too many slides become tedious to the audience and are apt to lose their effectiveness.

These remarks have been directed rather specifically towards the use of slides at meetings such as the annual meeting of the Association, but the information applies equally well wherever they are to be used.

FILM STRIPS.—Film strips afford a desirable means for presenting subject matter to the layman or to students in the classroom. As the name indicates, they are strips of standard (35 mm.) motion picture film containing material such as would be used in a lantern slide series. A special projector is necessary to show film strips. The Department of Agriculture has prepared about 40 film strips on various phases of entomology. The author will be very glad to furnish more information on these.

At a recent meeting the author was asked by a fellow entomologist if he had noticed how much better the papers from a certain state were presented, to which the reply was "Yes." Investigation showed that the people from this state had rehearsed before their group prior to coming to the meeting. This might offer a suggestion which would no doubt prove helpful to many others. Persons in one-man stations could practice on their wives and families.

The author has often heard the remark: "I hate to travel half way across the country to hear a long-winded discussion." So, it would appear that a paper that is worthy of presentation at these meetings is deserving of time and thought in the preparation. —1-29-37.

BROCHURE NUMBER 1

The booklet *OPPORTUNITIES IN PROFESSIONAL ENTOMOLOGY* published in 1955 as Brochure No. 1 of the Society is filling a real need. Every member of the Society received a copy and a copy is sent to each new member. Copies were sent to our Sustaining Associates. Every student, advisor, teacher or school official who writes us concerning entomology receives a free copy.

The original printing was 10,000 copies. This year it was necessary to have 5,000 additional copies printed. The cost of these 15,000 copies was \$830.00. As of August 31, 1956 we had collected \$879.14 for copies sold (this is in addition to the free distribution noted above) and still had about 4,000 copies on hand. The booklet is therefore more than paying for itself and the foresight of the leaders of the 1954 Governing Board is quite apparent. M. P. Jones and his committee rendered a definite service to the Society and to the Profession. We take this means of thanking the many Entomology Departments and Commercial firms who have purchased copies in quantity.

PLANT QUARANTINE RECOGNITION

Plant quarantine has been recognized as a distinct entity by the *Encyclopaedia Britannica*. At the invitation of the *Encyclopaedia's* editor, Ralph W. Sherman of the Plant Quarantine Branch, Agricultural Research Service, U. S. Department of Agriculture, has contributed a 3,700-word article of this subject for the forthcoming printing of this publication. This is apparently the first time that a comprehensive general article on plant quarantine has been included as a separate item in any standard reference work.

A. I. B. S.

The American Institute of Biological Sciences met at the University of Connecticut, Storrs, Conn., on August 26-30, 1956. Twenty-three biological societies had paper reading sessions at this meeting. One evening was devoted to a general meeting of all participating societies. The program, published in the *A.I.B.S. Bulletin* for August, 1956 and the reports of those attending all indicate that this was an excellent meeting with numerous outstanding papers.

THE JAMES ZETEK AWARD

Elsewhere in this issue of the *BULLETIN* we have taken due note of the retirement of James Zetek. The following is reprinted from *The Smithsonian Torch* for June 1956.

On May 23 the Panama Canal Natural History Society celebrated the 25th anniversary of its founding. At the meeting the "James Zetek Award" was made to three outstanding science students of the Canal Zone high schools. This award, which is in the form of a gold key, was created to honor Mr. James Zetek who, until his recent retirement, served as Resident Manager of the Smithsonian Institution's Canal Zone Biological Area.

Mr. Zetek was the founding father of the Society, which was established in 1931 principally to meet the need of Canal Zone and Panamanian people for a better understanding of the natural history of that area. The Society membership includes both scientists and laymen. Its members declare that a 25-year record of inspired scientific study increasing the knowledge of the Isthmus and promoting the cultural levels of the community is one of which any organization may well be proud.

TENTH INTERNATIONAL CONGRESS OF ENTOMOLOGY

The International Congress at Montreal, the first to be held in Canada and the second on this continent, is now history. August 17-25, 1956 will be well remembered dates by the more than 1,300 people from around the world who attended.

It is not possible to list all who contributed to the outstanding organization and smooth operation of the Congress. Dr. W. R. Thompson, President; Dr. Robert Glen and Rev. Ovila Fournier, Vice-Presidents; and Mr. J. A. Downes, Secretary, along with their staff members and committees were and are deservedly complimented for this highlight in the advancement of entomology. A letter from President Porter to Dr. Thompson, copied below, well expresses this sentiment.

Neither is it possible to attempt any comment on the many informative papers presented. The Proceedings of the Congress will be published as soon as possible and a copy will be sent to each member of the Congress free of charge. Others, including commercial firms, institutions and libraries, are invited to place orders for copies with the Secretary whose address is as follows:

Mr. J. A. Downes, *Secretary*
Tenth International Congress of Entomology
Science Service Building
Ottawa, Ontario, Canada

Dr. W. R. Thompson, *President*
Tenth International Congress of Entomology
Science Service Building
Carling Avenue
Ottawa, Ontario, Canada

Dear Doctor Thompson:

In behalf of those members of the Society from south of the Canadian Border who were privileged to attend the recent Tenth International Congress of Entomology at Montreal, I wish to express our appreciation of the remarkable job that you and your associates did in planning and organizing the Congress. This was the largest entomological gathering that has ever been held, both as to the number of entomologists attending and the number of papers presented, and constitutes a landmark in the development of Entomology. The Congress has undoubtedly stimulated entomology in all its phases and its influence will be felt for many years.

In spite of the magnitude of the undertaking, there seemed to be a total lack of confusion or difficulty. Everything seemed to proceed as if such Congresses were everyday affairs and as if your committee had had long experience in organizing them. The meetings ran on time, the numerous social events were most enjoyable, and everything that could be done for our convenience or comfort had been thought of and suitable provision made.

A well-organized Congress of this kind does not happen by chance. It became fully evident that a great many people had given a great deal of careful thought to the planning of the congress and a tremendous amount of work to carrying out the details as planned.

I wish to congratulate you and your associates on the success of your efforts and on your contribution to the progress of Entomology.

Yours very truly,

/s/ B. A. Porter, *President*,
Entomological Society of America.

UNPUBLISHED DOCTORAL THESES

By G. CONGDON WOOD

The following unpublished theses on entomological subjects are listed in the French Bibliographical Digest, Series III, No. 1, December, 1955 (French Doctoral Theses, Sciences, 1951-1953. The French Cultural Services of New York, 972 Fifth Avenue, New York 21, N. Y.: vii + 75 pp., subject index). The editor (p. v) points out that every French thesis is filed with the Bibliothèque Nationale in Paris and with the Bibliothèque de la Sorbonne. Further, there is an international exchange system between the Bibliothèque de la Sorbonne and universities in other parts of the world. The service is available at Johns Hopkins University, Harvard University, Yale University, Columbia University, and the Midwest International Center. Photostat or microfilm copies may usually be purchased from the Centre National de la Recherche Scientifique, Service de Documentation, 16 rue Pierre-Curie, Paris V.

All inquiries about French science and scientists are welcomed by and should be addressed to: Prof. Pierre Donzelot, Permanent Representative of French Universities in the United States, at the French Cultural Services in New York.

It is particularly appropriate to call this invaluable service and publication to the attention of American entomologists at a time when so much is being said and written about the pressing need for improved documentation and distribution of research data.

CONDE, BRUNO. Matériaux pour une monographie des diptères campodéidés. Typewritten, 352 pp., inset pl. Doctorate d'Etat, Nancy, 1952.

DESCHAMPS, PAUL-EUGENE. Contribution à l'étude de la xylophagie: nutrition des larves de cérambycides. Typewritten, 138 pp., inset pl. Doctorate d'Etat, Paris, 1951.

GANS, MADELEINE (née DAVID). Contribution à l'étude génétique et physiologique du mutant Z de *Drosophila melanogaster*. Typewritten, 152 pp., fig. Doctorate d'Etat, Paris, 1951.

GOLDSTEIN, LEONIDE. Action de facteurs transmissibles sur certaines modalités de la sensibilité héréditaire à l'anhydride carbonique chez la drosophile. Typewritten, 100 pp., inset pl. Doctorate d'Etat, Paris, 1951.

HAGET, ANDRE. Analyse expérimentale des facteurs de la morphogénèse embryonnaire chez la coléoptère *Leptinotarsa*. Typewritten, 148 pp., fig., inset pl., abstracted. Ann. Univ. Paris, 1953, No. 2, Doctorate d'Etat, Paris, 1952.

HOLSTEIN, MAX. Contribution à l'étude de la biologie d'*Anopheles gambiae* en A. O. F. Typewritten, 419 pp. Doctorate d'Etat, Montpellier, 1951.

OZER, MUSTAPHA. Etude anatomique et biologique d'*Ephestia kuehniella* Zeller, la teigne des farines. Comportement de ponte. Comportement alimentaire des chenilles. Typewritten, v + 67 pp., inset pl. Doctorat d'Université, Paris, 1953.

POSSOMPES, BERNARD. Recherches expérimentales sur le déterminisme de la métamorphose de *Calliphora erythrocephala* Meig. (Diptère). Typewritten, v + 161 pp., inset pl. Doctorate d'Etat, Paris, 1951.

REAL, PIERRE. Le cycle annuel du puceron de l'arachide (*Aphis leguminosae* Theobald) et son déterminisme en Afrique Noire française. Typewritten, 176 pp., inset pl. Doctorate d'Etat, Paris, 1953.

SIGOT, ANDRE. Contribution à l'étude de la sensibilité héréditaire au gaz carbonique chez la drosophile. Influence de divers facteurs sur la transmission de la sensibilité par les mâles. Typewritten, 168 pp., inset pl. Doctorate d'Etat, Strasbourg, 1951.

THEODORIDES, JEAN. Contribution à l'étude des parasites et phorétiques de coléoptères terrestres. Typewritten. Doctorate d'Etat, Paris, 1953.

VODJANI, SAMADE. Contribution à l'étude d'*Eurygaster integriceps* Puton. (Hemiptera-Pentatomidae). Typewritten, 160 pp., fig. Doctorat d'Université, Paris, 1952.

For Pete's Sake!

Last spring, Professor Alvah Peterson of the Ohio State University published a well-illustrated book on insects that might be used as bait by fishermen. We hope it is now well known among entomologists, but even those who know it may need to be reminded that they should help to make it known among fishing laymen, for whom it was written.

Suppose that Pete's book can be made to catch fire among the sport fishermen of the United States so that it will become fashionable to use natural insects as bait. There would follow not only a surge of appreciation of insects and entomologists, but an occupation for entomologists in the rearing and sale of insect bait. If this is to happen, the priming will probably have to be done by entomologists themselves. Therefore, let every fisherman among us, like Past-President Curtis Clausen, buy a copy of Pete's book and try it out himself. Then let him pass on the word to fellow fishermen who need it. Let others among us who do not fish think of our friends who do and, if possible, make a present of the book to those who may appreciate it, or at least mention the book to every fisherman in need of enlightenment.

And let us do this also for Pete's sake, as a mark of appreciation of one of the most productive entomologists in this country, who has done so much for us on entomological equipment and methods and on immature insects. Pete has entitled his book "Fishing with Natural Insects" with the subtitle "A Handbook of Insects for Bait Use." The following instructions for buying this book are copied from the dust cover:

"The distribution of this book is handled by Alvah Peterson, Entomology Division, Ohio State University, Columbus 10, Ohio, or 2039 Collingswood Road, Columbus 21, Ohio. All orders should be sent to the author or through a reliable book dealer. If you live in the State of Ohio all taxable orders must come through an established bookstore or a book agency. Postage in the U.S.A. is prepaid, if money is sent with the order. Book dealers receive a discount. Price \$6.00." Pete adds, "Members of ESA are entitled to 20 per cent discount and postage prepaid if money is sent with the order to the author."

F.L.C.

Scientists and Science Writers

By GEORGE S. FICHTER,
Miami University, Oxford Ohio¹

Scientists are quick to criticize writers of popular scientific articles for the inaccuracy of their statements. A portion of this criticism is just, for science writers, like scientists, belong to the imperfect human species, and a great many errors result from hurried, haphazard work.

In the case of science writers, this urgency can be partially explained. An enormous wordage must be marketed by the average free-lance writer in order for him to earn an appreciable income. Noteworthy financial successes are the exceptions, for most free-lancers earn a difficult and uncertain livelihood. The seemingly exorbitant earnings of one year may have to tide the average writer through a much longer period of complete disfavor.

Most writers attempt to treat their subject material with as much integrity as the scientist practices in executing and recording his research. However, the unsalaried writer encounters limitations of a more practical, economic nature than those confronting the payroll biologist. For example, a writer not specifically trained in genetics can scarcely afford to spend several months doing research for a 5000-word article which will pay him probably no more than ten cents a word. Even if he has an understanding of the fundamentals, his chances of error are many. The majority of science writers understandably turn to less difficult subjects; or they rely on the charm of their phraseology to shroud the paucity of their information.

Too little has been done to alleviate this stalemate. Despite the admirable work fostered by such organizations as Science Service and the National Association of Science Writers, the corps of gifted science writers remains small.

Scientists publish almost exclusively in technical journals. The economic entomologists publish in a journal devoted to the problems of economic entomology; physiologists publish in a journal of physiology. Through these periodicals scientists of similar interests exchange ideas, getting impetus and direction for their research. However, circulation of this information is obviously very limited. Each scientist, in effect, subscribes to his own interests and contributes little to knowledge for general consumption. Papers are written at the level of scholastic dissertations and, for the lay reader, are typically void of all the vigor and enthusiasm with which the scientists pursued their research. Although the importance of these publications must not be minimized, it is probable that they have little meaning to anyone who is not equally zealous about the same or cognate pursuits.

Since pure research fathoms the unknown, endless and undirected research is fully justified, even though only a fraction of these findings have immediate, practical value. Furthermore, advances in knowledge must be made available to as many persons as possible, since there is no dependable criterion for judging the limits of their usefulness.

In the present system, research scientists seem, as it were, to hoard the results of their investigations. Their findings remain too long the exclusive property of academic circles. Their new knowledge is disseminated so slowly that it is often obsolete

by the time it escapes the technical journals, and becomes available to the public. Much of it, however, might be of more immediate value or concern to the laity.

This is no longer a world in which one's knowledge is derived solely from the classroom. In our present society of rapidly changing facilities, techniques, and responsibilities, forms of education are necessarily multifarious. Each individual must expand his knowledge continually in order to cope with these changeable situations.

One means of effecting a more immediate transfer of current information is provided by science writing. To be sure, the kind of writing referred to here rarely conforms to the standards of the classics. Transcending time, the classics continue to evoke fresh thought; but they demand the expenditure of mental labor for their enjoyment and understanding. Very few people turn to the classics for diversion. Most people want their entertainment less involved, the answers to their questions more direct; they prefer the sort of writing which requires a minimum of cerebration. It is just these people in particular, however, for whom informational materials are a desideratum. The printed matter they resort to is of ephemeral existence. Because of its contemporaneous subject matter, it is soon outmoded and cast aside. Nevertheless, the fundamental ideas contained therein are absorbed and reflected in the actions and attitudes of the readers.

Since the reader selects for himself the type of material that he reads, the entertainment quality of informational writing must not be slighted if it is to serve a valuable function in society. The more the subject matter deviates from the reader's particular interests, the greater the skill that must be exercised in retaining his attention. It is possible, however, to compensate for reader differences by presenting the same material again and again, approached from sundry perspectives and accurately directed toward all educational and age levels desired.

Logically, then, all types of publications should be imbued with the nutritives of a sound and evolving education. All information should be channelled so that it reaches the maximum number of persons for whom it might have utility or interest.

Actually, however, popular magazines tend to be stereotyped not only in format but also in content. Each has a master pattern. Each operates on a formula conceived to insure the reaching and maintaining of a particular segment of the population as a regular reading audience. As a result, the layman becomes acquainted with only those types of information to be found in the few magazines to which he exposes himself. For example, conservation and wildlife messages appear only in the dozen or so outdoor magazines, which are read by the comparatively small group for whom such magazines have appeal. Because of limited circulation, then, communications on vital conservation issues reach only those persons who already have a basic understanding and appreciation of the problems.

Obviously, the public cannot be expected to lend assistance to programs unconformable to its enlightenment; when widespread public support is needed for the success of an endeavor, the millions

¹ Reprinted from *AMERICAN SCIENTIST*, Winter Issue, 1950, Vol. 38, No. 1.

must somehow be contacted and informed. Every important conservation issue must therefore be styled in as many ways as possible, in an attempt to reach the great diversity of interest and social groups. Moreover, this dispersal of information must not be restricted solely to cardinal points, for the public will be more receptive to these points if those of lesser importance have been provided as background. Such a technique of educating the public can facilitate the application of the results of research in all of the sciences.

A few scientists object vehemently to generalizations of their specialty. They allege that generalizations are largely detrimental, inasmuch as the subject matter is distorted by the absence of detail. But details must be treated in accordance with the type of audience addressed. Fewer and fewer details can be employed as the source of the information is departed from, for particulars are merely the exacting implements of the specialists.

Scientists who view generalization or popularization of certain aspects of their work with such disapprobation tend to forget that much of their own cherished general knowledge is but a veneer. Would they relish newspapers written in the technical language of the political scientist? Would they appreciate a breakfast companion of automotive

engineering schematics? Would they have an enjoyable evening reckoning the world situation in terms of population statistics? A few would, no doubt! Nearly all of us at some time have the desire to examine subjects in greater detail than is afforded through generalization. But it is the generalization that stimulates and variegates our interests.

Fortunately, the majority of scientists recognize the value of dispatching the verified results of their research through as many channels as possible. Some perform this task in a commendable fashion themselves, but writing is a profession with as many technicalities as science itself. It is not surprising that so few persons become masters of both professions for both demand constant attention and study. The only conceivable method of facilitating a more rapid and accurate transfer of the results of scientific research to these many periodicals lies in teamwork between the scientist and writer.

It is the writers who must translate the incomprehensible dialects of the various sciences into all feasible readability levels. But they cannot do the task alone. It is part of the scientist's obligation to offer writers the assistance they need in obtaining and interpreting the data of scientific research, in the interests of a more discerning and cooperative public.

NATIONAL AGRICULTURAL CHEMICALS ASSOCIATION

The twenty-third annual meeting of the N. A. C. was held September 5-7, 1956 at The Essex and Sussex Hotel, Spring Lake, New Jersey. L. S. Hitchner, N. A. C. Executive Secretary and Alfred Weed of John Powell & Co., as Chairman of the Program Committee, both of whom are members of the Entomological Society of America, are to be congratulated for another eventful meeting.

F. S. BLANTON

Lt. Col. F. S. Blanton has retired from the Surgeon General's Office of the U. S. Army and on September 4, 1956 joined the staff of the Department of Entomology of the University of Florida as Professor of Medical Entomology. Dr. Blanton's service in Medical Entomology with the Army has been outstanding. The word "retired" above gives the Editor pause. Syl Blanton and the writer joined the old Bureau together as P 1 Entomologists in 1931. We congratulate him on past accomplishments and extend best wishes in his new position.

JAMES ZETEK

After 45 years of service, James Zetek has retired from the Smithsonian Institution's Canal Zone Biological Area on Barro Colorado Island. Mr. Zetek joined the former Entomological Society of America in 1907 and became a Fellow in 1939. He was also a member of the American Association of Economic Entomologists, joining in 1919. The Society is honored by his nearly 50 years of membership. He has our best wishes.

Carl B. Koford, Zoologist at the Museum of Vertebrate Zoology, University of California, succeeds Mr. Zetek.

R. T. COTTON

Dr. R. T. Cotton, entomologist with the Stored-Product Insects Section, Marketing Research Division, Agricultural Marketing Service, was one of ten persons selected from the Federal Government to receive Career Service Awards from the National Civil Service League, at a function to honor its 75th Anniversary, July 2, 1956. The ten award winners were selected from 130 nominees from various federal departments. Dr. Cotton received a framed scroll, a check for \$100, and a handsome wrist watch.

The Honorable Robert D. Meyner, Governor of New Jersey, in the featured speech of the evening emphasized that in honoring the winners the League was actually honoring thousands and thousands of faithful, dependable Federal career workers. The entomological profession is proud that one of its members was selected for this honor. Dr. Cotton well deserves the recognition of his long years of service and professional reputation, and Federal entomologists likewise deserve the recognition of their collective technical services to agriculture and devotion to the welfare of the country. Dr. Cotton joined the former Entomological Society of America in 1915 and became a Fellow in 1937. He joined the American Association of Economic Entomologists in 1917.

The League is a non-partisan citizens' group working to improve the public service, and for the past two years has cooperated with Look Magazine in presenting annual Career Service Awards to ten career employees of the Federal Government. This year's list was composed of four technical and six administrative high level employees; including the technical director, preliminary ship design, U. S. Navy; technical director, Wright Air Development Center; head of the Government helium plant in Amarillo, Texas; an assistant Secretary of the Treasury, an assistant director of the Bureau of the Budget; and others.

MEMBERSHIP IN THE ENTOMOLOGICAL SOCIETY OF AMERICA

This is a call for each member of the Entomological Society of America to consider himself a member of the membership committee and to become active in recruiting new members. Such membership will be highly beneficial to the new members in bringing them the latest information in our field promptly.

The Society must keep pace with the profession which it is obligated to promote for the good not only of entomologists, but for the public also. Not only is the number of entomologists increasing steadily, but so is the field of entomology. Both result in more scientific papers presented at meetings and published in journals; more correspondence and, consequently, more expense to the Society. The chief source of income for publication has been its membership fees. To be sure, Industry is now aiding the Society but this should not be the principal source of support.

Some reasons for supporting actively this drive for more members include a stronger, more influential Society, a wider range of professional associations, increased opportunity of knowing more teachers, administrators, industrial specialists and investigators in the broad field of Entomology and allied fields, more papers for publication and, of course, more financial support for our publications.

We believe that every professional entomologist should be an active member of the ESA. Students planning to become professional entomologists should take advantage of the low student rates which allow them to affiliate early in their careers.

Many students need to be informed of their eligibility to become member affiliates.

Members should have a few membership blanks close by at all times. Use the "personal contact" approach. Tell prospective members of the various subject matter sections, the study and report groups, the scope and the purpose of the regional meetings and of the national meeting, the sponsorship of the JOURNAL OF ECONOMIC ENTOMOLOGY, the ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA, ANNUAL REVIEW OF ENTOMOLOGY, the BULLETIN OF THE ENTOMOLOGICAL SOCIETY OF AMERICA, and many other activities of our Society.

Membership blanks may be obtained from the Executive Secretary. Requirements for joining the Society are enumerated clearly on the application forms. Briefly, they are as follows: All persons engaged in work in Entomology or allied fields, or having suitable training or interest in Entomology, may become active members by vote of the Governing Board, on recommendation by the Committee on Membership, after a completed application, endorsed by two active members and accompanied by the required fee, has been filed with the Executive Secretary, Entomological Society of America, 1530 P Street, N.W., Washington 5, D. C.

Herbert Knutson
Chairman, Membership Committee
Entomological Society of America

ENTOMOLOGY AND EXTENSION

Dr. D. E. Howell, Head, Department of Entomology, Oklahoma Agricultural and Mechanical College at Stillwater, furnished us with the following tabulation. It was abstracted from the Ph.D. thesis of Paul G. Adams. Dr. Adams is not an entomologist but has spent many years as an agricultural specialist.

Dr. Adams requested the county agricultural agents in Oklahoma to list, in the order of their preference, specific courses that would be most helpful to them if offered in summer courses at the Oklahoma A. & M. College and arranged especially for in-service Extension employees. The evaluated scores were calculated by assigning the values 6,5,4,3,2, and 1 to courses ranked first, second, third, fourth, fifth and sixth in order of preference by the county agents. The tabulated results are based on the replies of 126 agents.

Rank	Evaluated Score	Subject Matter Courses Preferred
1	236	Entomology, insecticides, and insect control
2	183	Feeds and feeding—livestock, dairy, and poultry
3	143	Farm economics related to marketing farm products
4	141	Farm and ranch organization and management
5	119	Economics related to farm management
6	118	Information on irrigation

7	104	County program planning
8	99	Education—teaching methods
9	98	Farm and home planning
10	90	Horticulture—vegetables, flowers, landscaping
11	81	Soils—laboratory analysis, fertilizers, soil improvement
12	80	Pastures—farm and ranch pasture management
13	67	Psychology adapted for Extension workers
14	63	Public relations
15	59	Field crops—latest research, varieties, etc.
16	50	Leadership training for 4-H Club work
17	48	Journalism—publicity methods, radio, television
18	45	Sociology for rural workers
19	45	Plant disease control
20	43	Leadership training for adult Extension leaders
21	41	Office organization and management
22	39	Dairy production and management
23	38	Information on fertilizers and soil fertility
24	29	Extension information and its preparation
25	26	History, functions, and objectives of Extension

INSECT TAXONOMY PROJECT AT THE UNIVERSITY OF MICHIGAN

The Dow Chemical Company has set up a project for the study of parasitic Hymenoptera at the University of Michigan, as a means of supporting basic research in the field of agriculture, with particular reference to the relation of chemical to natural control of insect pests. Dr. Henry Townes is employed in the project and is working on revisions of the Nearctic Ichneumonidae. A study of the subfamily Metopiinae is nearing completion and a study of the Pimplinae is being started.

MEMBERS HONORED

Each year the Secretary of Agriculture makes awards to a certain number of U. S. Department of Agriculture employees for outstanding accomplishments. Among those honored in 1956 were the following:

Superior Service Awards

F. F. Dicke, Ankeny, Iowa.

For planning and conducting research contributing to the development of insect resistance in corn now being used in corn improvement programs.

Ina L. Hawes, Washington, D. C.

For her resourcefulness and skill in developing the Indexes to the Literature of American Economic Entomology and other outstanding bibliographical contributions.

L. S. Jones and N. S. Wilson, Riverside, California.

For research that has shown that the destructive mosaic virus disease of peach is transmitted by a microscopic mite which will facilitate the development of practical control measures.

R. C. Roark, Beltsville, Maryland.

For inspirational leadership and meritorious service in agriculture in developing and improving the use of chemical control methods for insect pests.

Forty Year Service Awards

Harold Morrison, Washington, D. C.

H. L. Parker, Rueil-Malmaison, France

The Society is proud to count these award recipients among our members.

HENRY B. PEIRSON

Dr. H. B. Peirson of Augusta, Maine, recently retired as State Forest Entomologist after thirty-five years of outstanding public service. He was employed by the Maine Forest Service in 1921 as the first State Forest Entomologist in the country. In 1929 he became State Entomologist of Maine. He joined the American Association of Economic Entomologists in 1921. His publications include *Manual of Forest Insects*, *Field Book of Destructive Forest Insects* and *Forest Trees of Maine*. The best wishes of the Society are extended.

Robley W. Nash has been appointed Maine State Entomologist and John B. Dimond has been employed by the Maine Forest Service. These Society members have our congratulations.

HARRY B. WEISS

Dr. Harry B. Weiss, Director, Division of Plant Industry, New Jersey Department of Agriculture for 36 years and a member of the Department for nearly 45 years, retired on March 15, 1956.

Dr. Weiss, a past president of the American Association of Economic Entomologists (1942) and of the New York Entomological Society, was associate editor of the *JOURNAL OF ECONOMIC ENTOMOLOGY* for many years and editor of the *Journal of the New York Entomological Society* for 26 years. He was also secretary-treasurer of the Eastern Branch of the American Association of Economic Entomologists for 15 years. He joined the American Association of Economic Entomologists in 1913 and the Former Entomological Society of America in 1914, becoming a Fellow in 1937.

Dr. Weiss' many entomological papers and books have dealt mainly with the biology of insects, their behavior to various wave-lengths of light and with the history of entomology. Dr. Weiss expects to continue writing publications on the history of early rural industries in New Jersey, a subject that has engaged part of his attention for the past ten years.

Frank A. Soraci succeeds Dr. Weiss. Mr. Soraci is a member of this Society and has our congratulations.

T. H. PARKS

On June 29, 1956 Professor T. H. Parks was honored by an informal luncheon attended by 48 of his friends and associates at Ohio State University. The occasion was the retirement of "Mr. Extension". Dr. D. F. Miller, Chairman of the Department of Zoology and Entomology; Dean L. L. Rummell, College of Agriculture; Director W. B. Wood, Agricultural Extension Service; Director Emeritus H. C. Ramsower; and D. Lyle Goleman, Extension Entomologist, were speakers on the program. Mr. Charles Haas presented him, in behalf of all the extension workers in Ohio, a bound-book of letters of appreciation and good wishes. Professor Parks has been outstanding in the field of Extension Entomology, serving 38 years in Ohio. Prior to this time he was the first Extension Entomologist in the United States—being appointed in Idaho in 1913; later moving to Kansas in the same capacity. His many years of devoted service to Ohio Agriculture will long be remembered.

In 1951 he received the Superior Service Award from the U. S. Department of Agriculture and in 1954 he was made honorary life member of the Ohio State Horticultural Society. He is a member of Sigma Xi and Epsilon Sigma Phi. He joined the American Association of Economic Entomologists in 1913 and the former Entomological Society of America in 1919. He has the best wishes of the Society and of friends throughout the profession.

ANNUAL REVIEW OF ENTOMOLOGY

All Society members have been sent ANNUAL REVIEW order blanks. If yours is mislaid send us a card or letter. You may place a standing order to receive all issues if you wish. Please send your order for Volume II before December 1, 1956. Members send orders and payments for the ANNUAL REVIEW to:

Entomological Society of America
1530 P Street, N. W.
Washington 5, D. C.

ENTOMOLOGY IN MICHIGAN HIGH SCHOOLS

SHIRLEY TOUSCH AND HERMAN KING
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The current use of entomology as a teaching medium in the public high schools of Michigan was surveyed in connection with an entomology problem course taken by the senior author at Michigan State University in the fall of 1955. A mimeographed questionnaire was sent to each of 200 high schools, distributed as evenly as possible in terms of location in the state and size of enrollment. Completed, or nearly completed, replies were received from 135 teachers. The replies came from schools well distributed in the state and in size of enrollment, but perhaps not well distributed in terms of interest in entomology, since teachers most interested might be most likely to reply. Error of this type is inherent in "voluntary reply" surveys, and must be kept in mind when interpreting the results. The replies received are summarized below. The percentage figures do not necessarily indicate percentage of the total of 135, but are based on the number of replies in the particular category under consideration.

General information:

- 135 high schools returned the questionnaire.
- Of these, 115 schools include 7th, 8th and 9th grades in "high school."
- 111 schools teach biology in the 10th grade.
- 27 schools teach biology in the 9th grade.
- 1 school does not teach biology.
- 129 schools teach something about insects in biology.
- 86 schools include science in the 7th, 8th and 9th grades.
- 27 schools teach something about insects in science.

Outstanding textbooks:

- 45 schools (33%) use *Modern Biology* by Moon, Mann & Otto.
- 36 schools (27%) use *Biology in Daily Life* by Curtis & Urban.

Time spent on insects in biology courses:

- 31 schools (25%) spend one week or less.
- 42 schools (33%) spend two weeks.
- 24 schools (19%) spend three weeks.
- 14 schools (11%) spend four weeks.
- 3 schools (2%) spend five weeks.
- 10 schools (8%) spend six weeks or more.

Time spent on insects in science courses:

- 27 schools (31%) spend three or four days.

Material covered:

- 120 schools (90%) study basic insect structure.
- 87 schools (65%) study order names (approximately 8 used).
- 108 schools (81%) study various individual insects.
- 124 schools (93%) study the place insects have in our lives.
- 20 schools (15%) study insect control.

Class projects:

- 50 schools (41%) make collections each year.
- 6 schools (5%) sometimes make collections.
- 23 schools (19%) list projects as optional for extra credit.
- 42 schools (35%) have no class project in insect study.

Field trips:

- 66 schools (51%) take field trips every year.
- Of these, 23 schools are limited to urban areas.

- 40 schools can visit streams, forests, meadows, etc.
- 4 schools visit museums.
- 60 schools (47%) do not take field trips.
- 3 schools (2%) sometimes take trips.

Clubs:

- 30 schools (23%) have a science club.
- 98 schools (77%) have no science club.

Visual aids:

- 122 schools (96%) use visual aids of some kind.
- Of these, 79 schools (65%) use movies.
- 75 schools (61%) use charts.
- 28 schools (23%) use live insects.
- 20 schools (16%) use filmstrips.
- 5 schools (4%) use no visual aids except textbook.

Equipment available:

- 109 schools (87%) have some entomological equipment.
- Of these, 88 schools (81%) have collecting equipment.
- 83 schools (76%) have specimens.
- 74 schools (68%) have laboratory equipment.
- 16 schools (13%) have no entomological equipment.

Courses taken by teachers:

- 68 teachers (53%) have had one or more formal courses in entomology.
- Of these, 48 indicated a feeling of adequate preparation, 7 indicated a feeling of inadequate preparation, 13 made no comment on adequacy of preparation.
- 60 teachers (47%) have had no formal entomology courses.
- Of these, 14 indicated a feeling of adequate preparation, 16 indicated a feeling of inadequate preparation, 30 made no comment on adequacy of preparation.

In several places the questionnaire provided space for "write-ins" in addition to choices provided by the question itself. Under subject matter covered, write-ins included encouragement of hobbies, identification and classification, insect behavior, and genetics. Under class projects, additional items listed included making insect mounts of various kinds, rearing colonies of insects, maintaining an aquarium, studying the genetics of *Drosophila*, and making soap carvings or drawings of insects.

Comments and letters accompanying many of the replies indicated much interest in the study of insects. They also indicated that overcrowded schedules, inadequate facilities and, in some cases, lack of training caused some neglect of activities such as field trips, class projects and science clubs.

It appears that college instructors who have the opportunity of teaching entomology to prospective biology teachers may help to improve this situation by stressing the value of knowing how to develop and make use of teaching aids which require little time or elaborate equipment. The selection of easy-to-rear species, the study of common urban insects that may be found near the school, the selection or preparation of simple keys suitable for high school use, and the quick mounting of small insects on microscopic slides are examples of techniques which seem to be needed and desired by a number of teachers.

PROCEEDINGS OF THE FORTIETH ANNUAL MEETING

Pacific Branch, Entomological Society of America

Berkeley, California, June 26, 27, and 28, 1956

The fortieth annual meeting of the Pacific Branch was held at Berkeley, California, June 26, 27 and 28, 1956. The officers during the meeting were: Walter Carter, chairman; Louis G. Gentner, vice-chairman; Leslie M. Smith, Secretary-treasurer; and Stanley Bailey, branch representative to the National Governing Board. Chairmen of the various committees were: W. W. Middlekauff, *Program*; C. C. Papke, *Arrangements*; Mrs. Clifford Papke, *Arrangements for ladies*; J. E. Swift, *Registration*; D. D. Jensen, *Operations*; G. E. Carmen, *Nominations*; H. H. Keifer, *Membership*; T. R. Hanaberry, *Sustaining Associates*; R. E. Campbell, *Resolutions*; J. B. Steinweden, *Auditing*; and C. H. Starker, *Press*. Presiding at various times during the sessions were: Walter Carter, H. T. Reynolds, D. P. Furman, Richard Douth, H. H. Keifer, C. C. Cassill, and L. G. Gentner.

On Monday afternoon, June 25, the U. C. Entomology Club held open house at the insectary. An informal get-together was held Monday evening at the Claremont Hotel.

His Honor, Claude B. Hutchinson, Mayor of the City of Berkeley, delivered an address of welcome and drew pertinent observations on entomology from his many years of experience as Dean of the College of Agriculture and Vice-president of the University of California.

Dr. B. A. Porter, our National President, addressed the meeting and described the activities and status of the Entomological Society of America.

Interesting invitational papers were presented by: Stanley B. Freeborn, Provost, University of California at Davis; P. F. Bonhag, University of California; C. B. Philip, National Institute of Health, Montana; A. E. Michelbacher, University of California; W. M. Hoskins, University of California; W. H. Lange, University of California; E. S. Ross, California Academy of Sciences, San Francisco; J. W. MacSwain, University of California; M. T. James and Adel Kamal, University of Washington; R. F. Peters, State Bureau of Vector Control, California; and A. C. Smith, Bureau of Vector Control, California.

Symposia were as follows: *Arthropod Transmission of Disease Pathogens*, E. S. Sylvester, moderator, J. H. Freitag, N. S. Wilson, D. D. Jensen, K. G. Swenson, R. C. Dickson, and M. F. Day. *The Use of Audio Visual Aids in Entomology*, A. C. Smith, moderator, L. R. Brown, E. S. Ross, J. P. Harville, and W. T. Larkins. *Miller Amendment*, Glenn Carman, moderator, A. B. Lemmon, McKay McKinnon, J. T. Coyne, and L. S. Hitchner. *The Use of Radioactive Tracers in Entomology*, R. B. March, moderator, T. R. Fukuto, H. T. Gordon, and W. E. Robbins.

Fifty-seven submitted papers were presented in addition to the 31 invitational and symposium papers. The Executive Committee met and rendered the following decisions:

(1) The next meeting of the Pacific Branch will be held in Portland, Oregon, June 26, 27 and 28, 1957 with headquarters in the Multnomah Hotel.

(2) The possibility of meeting in Hawaii was shelved indefinitely since very few members signified their ability to attend in a mail poll taken on this question.

(3) A motion to include Montana and Wyoming in the Pacific Branch by amending the Constitution was passed unanimously.

(4) British Columbia shall be retained in the Branch Constitution as part of the territory of the Pacific Branch and the National Governing Board will be requested to reconsider its ruling relative to Entomological Society of America members who reside in Canada and Mexico.

(5) Chairman Carter appointed a study committee to make recommendations as to Branch procedure in electing a representative to the National Governing Board. This committee reported to the Executive Committee as follows:

It is recommended that the following changes be made in the Constitution of the Pacific Branch:

ARTICLE 3—OFFICERS

Section 1. Add the representative to the Governing Board of the Entomological Society of America as one of the officers of the Branch, for a period of three years, to conform to the requirements of the Constitutional provisions of the parent Society, to be elected in the same manner as the other officers.

Section 2. Reinstate the immediate past Branch Chairman and add the representative to the Governing Board, as members of the Executive Committee.

Section 3. Eliminate. (Previous method of selecting representative to Governing Board from the Executive Committee.)

Section 4. Re-number as Sec. 3.

Section 5. Re-number as Sec. 4.

Signed

L. A. Carruth
E. A. Steinhaus
H. M. Armitage, Chairman

The Executive Committee voted unanimously in favor of these proposed constitutional revisions.

(6) The Secretary read the following resolution drafted by Mr. H. M. Armitage:

(Extending authority to the Executive Committee to reimburse certain officers and representatives for travel expenses incurred in the interest of the Branch):

Whereas it is mandatory that the Secretary of the Branch be in attendance at the annual meeting of the Branch, and important that the duly appointed representative of the Branch to the Governing Board of the parent Society be in attendance at the annual meeting of the latter,

And Whereas the travel expense involved in such attendance, more often than not, is far more than should be imposed on any individual member of the Branch, in view of the fact that it is carried out in the interest of the Branch, as a whole, therefore

Be It Resolved that the By-Laws of the Pacific Branch be amended to authorize the Executive Committee to approve any request for reimbursement of reasonable travel expense incurred by the Secretary or by the representative to the Governing Board of the parent Society, including transportation, lodging and meals, permitting reimbursement for the use of personal automobile to the extent of regular train fare, in order to assure, as nearly as possible, their regular attendance at the designated meetings, as well as similar travel expense of Branch members

appointed to major Society committees meeting outside of the State of residence,

And Be It Further Resolved that the *Executive Committee* be instructed to explore means of developing the necessary Branch income to meet such expense, possibly as proposed in another resolution being presented at this time.

The *Executive Committee* unanimously passed this resolution. Since the Branch Constitution does not contain By-Laws, the *Executive Committee* decided that their approval of this resolution was sufficient to establish it as accepted practice.

(7) The Secretary read the following resolution drafted by Mr. H. M. Armitage:

(Requesting the parent Society to collect nominal dues from all active members of the Pacific Branch to be turned over to the Branch for use in meeting regularly occurring, necessary expenses):

Whereas the parent Society has properly reserved to itself the right to collect any and all dues from its members, denying such right to the Branches with respect to their recognized members,

And Whereas the Pacific Branch has therefore no source of income for meeting regularly occurring expenses concerned with its activities, other than that derived from registration fees collected from those members in attendance at Branch annual meetings, who are already burdened by the personal expense of attending such meetings, while the benefits of the meetings accrue to all members of the Branch,

And Whereas the Branch has appreciable fixed expenses which must be met if the Branch is to continue to operate effectively, such as travel and incidental expense of the Secretary and of the regularly appointed representative to the Governing Board of the parent Society, whose attendance at annual meetings of the respective groups is almost mandatory, as well as similar expenses of Branch members appointed to major Society committees meeting outside of the state,

And Whereas the expenses here outlined, together with normal incidental expenses covering office supplies, postage and printing, as required in sending out notices of annual Branch meeting to over 1,000 members, including printed programs and other information and correspondence pertinent to the meetings and the activities of the Branch, far exceed the amount collected in registration fees at annual meetings,

And Whereas it is believed that the Branch should be organized on a more sound financial basis if it is to continue to serve its members effectively, therefore,

Be It Resolved that the Branch, through the *Executive Committee*, ask the parent Society to collect one dollar from each active member registered in the Pacific Branch, in addition to the regular Society dues, said dollar to be returned to the Branch for its use in financing its activities.

It was moved, seconded, and passed unanimously that the *Executive Committee* approve this resolution and place it before the entire membership in general business session.

(8) Mr. H. H. Keifer presented the following resolution:

Be It Resolved that the program chairman be encouraged to solicit papers in morphology, insect natural history, and taxonomy

And Be It Further Resolved that when scheduling papers for future meetings, indicates the need for concurrent sessions, then papers on the subjects listed above shall be grouped together for presentation in a separate meeting room.

The *Executive Committee* unanimously approved this resolution and decided that it should be placed before the members assembled in business session.

At the final business meeting of the Branch the mo-

tions to revise the Constitution to include Montana and Wyoming, and to provide a method of electing the representative to the National Governing Board and placing him among the officers of the Branch, passed unanimously.

The Chairman called for the following three reports and they were accepted by the members:

TREASURER'S REPORT

Balance on hand June 30, 1955.....	\$284.12	
Receipts during the year	800.00	
Total		\$1,084.12
Disbursements during the year.....	511.45	
Balance on hand June 25, 1956	572.67	
Total		\$1,084.12

L. M. Smith
Secretary-Treasurer

A detailed copy of the Treasurer's Report was examined by the *Auditing Committee* and is in the files of the Secretary-Treasurer.

REPORT OF THE AUDITING COMMITTEE

We have examined the accounts of the treasurer and find them to be correct.

Signed
C. P. Clausen
J. B. Steinweden, Chairman

REPORT OF THE MEMBERSHIP COMMITTEE

The Branch Membership Committee has been conducting an active campaign for new Society members since July, 1955. The committee has had representatives in all of the major areas of the Branch. As of June 26, 1956 the committee has brought in 80 new members for the Society.

In addition to these 80 there have been 49 new members residing in the Branch who have submitted their applications directly to the Society headquarters. This makes a total of 129 new members from the Pacific Branch received by the Society between July 1, 1955 and June 26, 1956.

There have been also 17 transfers from other Branches into this Branch. This makes a total of 146 new members received by the Branch.

The various States and Territories in the Branch have the following number of Society members, respectively, as of June 26, 1956:

Alaska	4
Arizona	67
British Columbia	22
California	653
Hawaii	45
Idaho	21
Montana	23
Nevada	4
Oregon	73
Utah	38
Washington	97
Wyoming	14
Total	1,061

The above figures do not include Alberta or Saskatchewan which would add 12 more to the total if they are officially part of the Branch.

The membership chairman wishes to thank the Executive Secretary of the Society, R. H. Nelson, who has been most helpful by sending cards of new members as the headquarters office has received them.

The chairman also acknowledges the help of the Branch Secretary, L. M. Smith, and extends thanks to the members of the Committee.

Committee personnel:

W. W. Allen, Berkeley, Calif.
G. D. Butler, Tucson, Ariz.
R. E. Campbell, Whittier, Calif.
D. W. Davis, Logan, Utah
R. A. Flock, Riverside, Calif.
Carl Johansen, Pullman, Wash.
S. C. Jones, Corvallis, Ore.
A. F. Kirkpatrick, Oakland, Calif.
E. H. Littooy, San Francisco, Calif.
R. E. Pfadt, Laramie, Wyo.
R. W. Portman, Moscow, Ida.
John Sanjean, Vancouver, B. C.
Martin Sherman, Honolulu, T. H.
H. H. Keifer, Sacramento, Calif., Chairman

REPORT OF THE RESOLUTIONS COMMITTEE

Resolution 1.

The resolution presented by Mr. Keifer before the Executive Committee relative to arrangement of programs (see above) was passed by the members.

Resolution 2.

The resolution relative to the collection of one dollar from each member and refunding to the Branch Treasurer (see above) passed unanimously.

Resolution 3.

Whereas British Columbia has always been considered a part of the Pacific Branch and British Columbia entomologists attend our meetings, one of which was held at Vancouver, B. C.

And Whereas this Society has members residing in Mexico some of whom have attended our meetings, therefore,

Be It Resolved that the Governing Board of the Entomological Society of America recognize British Columbia, the West Coast of Mexico, and Baja California as part of the Pacific Branch territory. (Passed unanimously.)

Resolution 4.

Whereas the Pacific Branch of the Entomological Society of America has had a very successful and enjoyable meeting

Be It Resolved that the excellent and efficient work of the officers and committees be acknowledged and our appreciation and thanks be expressed to them.

Resolution 5.

Whereas Dr. Leslie M. Smith has faithfully and diligently served the Pacific Branch of the Entomological Society of America for seven years in the office of Secretary-Treasurer,

And Whereas he has unstintingly given of his time and abilities to the performance of the duties of this office,

And Whereas the Pacific Branch has benefitted greatly from his untiring efforts during this period of its greatest growth,

Be It Resolved that the Pacific Branch of the Entomological Society of America extend to Dr. Leslie M. Smith an expression of its deep and sincere appreciation for a job well done. (Passed unanimously.)

Resolution 6.

Resolved, that the Executive Committee of the Pacific Branch of the Entomological Society of America poll the members on their choice of continuing the annual meeting time in June or changing it to November so that current year entomological studies may be completed for discussion or presentation to the Society. (Defeated)

Leo Gardner
Robert Harper
Roy Campbell, Chairman

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee herewith places in nomination the following names for the offices indicated:

Chairman: Louis G. Gentner
Vice-Chairman: Lawrence S. Jones
Secretary-Treasurer: Hartford H. Keifer
Representative on the Governing Board: E. H. Littooy

F. P. Dean
A. F. Kirkpatrick
G. E. Carman, Chairman

The nominations were closed and the Secretary instructed to cast a unanimous ballot for these nominees.

The Chairman called for nominations from the floor to fill the two vacancies on the Executive Committee for terms of 3 years each. C. B. Philip and R. E. Campbell were nominated and duly elected.

A total of 354 members and guests registered, not including wives and children.

A competitive insect photo salon was held Tuesday night; C. B. Philip received first award for black and white, and F. E. Skinner received first award in the color division.

The members enjoyed a banquet, entertainment and dance Wednesday evening. The ladies enjoyed a tour of San Francisco and a boat trip around San Francisco Bay.

Respectfully submitted,

Leslie M. Smith
Secretary-Treasurer
Pacific Branch

S. S. EASTER

Steve Easter of the Velsicol Corporation was on another of his round the world trips from January 2 to the last of April of this year. He reports as follows: "I had a very interesting trip in my recent circling of the globe. One of the highlights as far as members of the Entomological Society of America are concerned was in the Philippines where I had good visits with T. E. McNeel, U. S. Public Health Service; J. A. Munro, I. C. A. and J. G. Matthisse from Cornell who was just completing his assignment at the College of Agriculture in Los Banos. I also had a visit in Thailand with C. Tongyai and one evening in Beirut with Ed Millet." Far away places with strange sounding names.

HOWARD B. OWENS

Mr. H. B. Owens who is a science teacher in Northwestern High School in Hyattsville, Maryland, received the 1956 Armed Forces Chemical Association citation as "The Nation's outstanding high school science teacher." The citation was accompanied by a check for \$1,000.00. This award was made on the basis of a nation-wide search which found that Mr. Owens has "an unparalleled ability to inspire an interest in the sciences in the minds of his students." In addition to being a teacher Mr. Owens is an entomologist and this Society is honored to count him among our members.

BOOK REVIEWS

INDEX OF TAXONOMIC SPECIALISTS IN ENTOMOLOGY.

Prepared by N. D. Riley, Honorary Secretary, Entomology Section, International Union of Biological Sciences. Published by the Secretary General of IUBS, Instituto di Genetica, Via Mezzocannone 8, Naples, Italy, as No. 6 of Series C, 37 pp., 1956. It may be procured from IUBS, Laboratoire de Physiologie Végétale, 2 rue Victor Cousin, Paris, Ve, France. 6 shillings.

If the reader has wondered what the Entomology Section of IUBS does for the international advancement of entomology, he can now cite, as an example, an attempt to provide a directory of the insect taxonomists of the world who may be willing, under certain conditions given in the directory, to identify insects in their special fields of competence for any serious investigator who needs such determinations. Any American entomologist, whether taxonomist or not, will quickly become aware of the absence of the names of many well-known American taxonomists from this list. By actual count there are only 83 American entomologists in the list, or 19.4% of the total. The others, apparently, were frightened by the possibility that the use of the directory would increase their working pressure and did not give the compiler permission to use their names.

In spite of its incompleteness, the directory should be helpful to American entomologists who want a convenient source of information on who knows what in insect taxonomy. The last 13 pages of the pamphlet are devoted to an index of orders and families in which the respective specialists are numbered. Their names and addresses can then be found by reference to the preceding numbered alphabetical list.

F. L. CAMPBELL

THE PRESERVATION OF NATURAL HISTORY SPECIMENS.

Vol. 1. Invertebrates. Ed. and compiled by Reginald Wagstaffe and J. Havelock Fidler. 1955. Philosophical Library, 15 E. 40th St., New York 16, N. Y. xiii & 205 pp., 129 text-figs., 25 cm., cloth bound. \$10.00.

This readable and very well illustrated book presents methods for the killing, mounting, and other preservation of invertebrate animals. Slide-mounted preparations, temporary mounts, and bulk storage are discussed as applicable. Collecting methods, in the main, are not described. Twenty-one chapters represent all major invertebrate groups, beginning with Protozoa and extending through the Tunicata. The chapter on insects comprises 70 pages, that on arachnids 5, and much of the subject matter in the 5 appendices (Apparatus and instruments, reagents, labels and labelling, storage, microscopy), 53 pages, concerns insects, so a large part of the book is entomological. Most of the chapters close with a short list of references. There are few American references on entomology other than Dr. Alvah Peterson's well known manual of equipment and methods.

The entomological portions include an excellent summary of British methods, as well as some from other areas, and the entomologist with experience by which to evaluate the techniques outlined may obtain helpful ideas,—hence the book is useful for reference libraries. However, some of the techniques widely used in Britain are not used in large American institutional collections, and so the book cannot be recommended without qualifications to our beginning students. For instance, a good deal of attention is given

to mounting insect specimens on rectangular pieces of cardboard, plastic, or celluloid, usually with adhesive under each tarsus and often under the wings and antennae. With reference to ants (p. 102), the writers recommend that British ants be staged on a card, but that "foreign ants" be mounted on card points, and the illustration shows the pointed specimen to the right of the pin, opposite from the standard American method. A reader can sense that many of the methods are a natural product of entomological study in a country with a limited fauna, mostly small collections, and plenty of time for the development of individual techniques by amateurs. Regarding setting needles (p. 148), it is suggested that a bristle from the underside of the neck of a hedgehog is good, and for fine work an eyelash in a matchstick is excellent. These techniques recall the preference held by a late well known American coleopterist for the hairs located near the claws of tigers, to be used in place of card points when mounting small special preparations.

The beginning student, who should be grounded in the best methods current in American institutions, and the entomologist who can afford only limited reference works will find it much better and more economical to get Beirne's "Collecting, preparing and preserving insects" (Canda Dept. Agric., Ent. Div. Pub. 932: 133 pp., 103 figs., 1955; 50¢), or Oman and Cushman's "Collection and preservation of insects" (U. S. Dept. Agric., Misc. Publ. 601; 42 pp., 42 figs., 1948; 15¢).

When these qualifying features of the book are understood, one can go ahead and find in it much that is helpful. The inclusion of material on all major invertebrate groups will make the book of wide application in some institutions, though with respect to some of the groups a critical appraisal of the methods suggested is desirable for the same reasons as in the case of the entomological portions.

ASHLEY B. GURNEY

PESTICIDE HANDBOOK, 8th edition, 1956. Edited by D. E. H. Frear. 9 x 6 inches. 208 pp. Commercial Printing, Inc., University Park, Pa. Paper bound, \$1.25; cloth bound, \$3.00.

A new edition of this guide to proprietary pesticides is very welcome each year as an up-to-date reference to trade-names and compositions. Persons working with insecticides in the fields of scientific and market research and in sales can ill afford to be without it. A fresh feature in 1956 is the pesticide tolerances being established by the Food and Drug Administration. These are included in a description of "common pesticides" in which is given also chemical formulas, compatibilities and hazards. Items described this year not appearing in the 1955 edition are such materials as Aramite, chlorobenzilate, demeton, etc. The paper bound edition is inexpensively but durably bound in a distinctive and attractive color.

The Pesticide Handbook for 1955 contained 208 pages with 6204 listings. This year it has the same number of pages but somewhat fewer listings. According to the cover announcement, listings number 6111 although this reviewer notes that the list ends at No. 5824, presumably one of those errors that the most painstaking writer comes to expect but hopes not to find!

HAROLD H. SHEPARD

A MANUAL OF PARASITIC MITES, by E. W. Baker, T. M. Evans, D. J. Gould, W. B. Hull, and H. L. Keegan. A Technical Publication of the National Pest Control Association, Inc. New York, 1956. 170 pages, 59 text figures.

This valuable manual may be used alone or in conjunction with AN INTRODUCTION TO ACAROLOGY (Baker and Wharton, 1952). The Table of Contents is followed by a short Introduction; one brief paragraph on Morphology accompanied by labeled diagrams; another paragraph on Technique for Mounting and Examining Mites; and a Key to Included Species. The remainder of the manual is given over to a discussion of the mites, listed under their respective families in approximately the order followed in the INTRODUCTION TO ACAROLOGY. A comprehensive index completes the volume. Classification is simplified as much as possible. No suborders are mentioned, the key leading directly to species in many instances, to genus in others. Some mites are treated mainly in family groups, in which case the key leads to this family. Such groups are the Hydrachnellae, Erythraeidae, Trombididae, Trombiculidae, Myobiidae, Oribatei and Acaridae. Members of 5 families are considered under the heading, Feather Mites, but the genera involved are listed in the Key. 6 genera and 3 subgenera of the Trombiculidae are recognized, treated in a separate key under the family. 8 species are listed under *Demodex species*, with emphasis on *D. folliculorum* and *D. canis*.

Mites from all quarters of the globe are considered in this manual. Some species are cosmopolitan, others limited in distribution. The authors' own introductory statement indicates the scope of the work: "... summarizes current knowledge pertaining to the biology, taxonomy, and control of the parasitic mites of medical and economic importance." Included likewise are "mites parasitic or predaceous on bees, mosquitoes, grasshoppers, roaches, moths and earthworms." A separate manual on ticks is in preparation, hence this group of parasitic forms is omitted. Of the 59 species of mites illustrated in the manual, at least 45 are not figured in the INTRODUCTION TO

ACAROLOGY; of the 12 species figured in both books, only 2 figures are identical. 52 of the illustrations show dorsal and/or ventral views of the mite, usually of the female, but in several instances the male also is included. Details of mouthparts, scutum and tarsus are occasionally added. For a number of the less important species, no figures are presented.

Listed specifically in the Table of Contents are 59 mites, while fully as many additional ones are mentioned in the text. Each of the species of mites which receive particular attention is treated at some length. First comes distribution, by hosts if cosmopolitan; types of injury produced; then medical and economic importance with special mention of its role as a vector. This is followed by a description of the mite, and details of its life cycle where such is known. Control measures are stressed. As stated in the Introduction, these "are taken from reports of various investigators and do not necessarily reflect the opinion of the authors". Common names of acaricides are in accord with lists published in the JOURNAL OF ECONOMIC ENTOMOLOGY. A timely paragraph in the Introduction, in bold-face type, warns against unnecessary exposure to acaricides. References following the discussion of each species, genus or family group cite the original articles from which information has been obtained. Needless to say, this list in itself is a great boon to all students of parasitic mites.

Modes of injury to the host inflicted by mites are many and various, ranging from mild cases of dermatitis, mange and painful skin irritations, to invasion of the respiratory and urinary tracts. Some mites serve as intermediate or in one case as definitive hosts of such parasites as tapeworms, nematodes and haemogregarines. Others are known or suspected vectors of viruses, rickettsias, spirochaetes and pathogenic bacteria. The medical and economic importance of mites has but recently been recognized, yet already the literature on this subject is extensive. To all who are interested in this relatively new and rapidly expanding field, the manual is practically indispensable.

JAY R. TRAVER.

MEETINGS

NIAGARA FALLS, ONTARIO, CANADA. Sheraton-Brock Hotel. October 16-18, 1956. Fourth Annual Meeting and Conference of the Canadian Agricultural Chemicals Association. A. W. Hutchison, Convention Chairman, 266 St. James Street W., Rm. 402, Montreal, Quebec, Canada.

DETROIT, MICHIGAN. Sheraton-Cadillac Hotel. October 22-25, 1956. Twenty-Third Annual Convention of the National Pest Control Association. Ralph E. Heal, Executive Secretary, 30 Church St., New York 7, N. Y.

ATLANTIC CITY, NEW JERSEY. Exhibition Hall. Annual Meeting, American Public Health Association. November 12-17, 1956.

ATLANTIC CITY, NEW JERSEY. Haddon Hall Hotel. Twenty-Eighth Annual Meeting, Eastern Branch, Entomological Society of America. November 19-20, 1956. Secretary, B. F. Driggers, N. J. Experiment Station, New Brunswick, N. J.

NEW YORK, NEW YORK. Hotel New Yorker, December 27-30, 1956. Fourth Annual Meeting of the Entomological Society of America. In connection with the 123rd meeting of the American Association for the Advancement of Science. See program.

HAMBURG, GERMANY. September 8-15, 1957. IVth International Congress of Crop Protection. Advance notice. Dr. Harold Richter, President, Biologische Bundesanstalt für Land- und Forstwirtschaft, Messeweg 11-12, Braunschweig, American Zone, Germany.

NECROLOGY

BAYHA, K. W. 40. Entomologist, Commercial Solvents Corp. In San Francisco, California, April 19, 1956.

CRAWFORD, H. G. M. 65. Retired Dominion Entomologist and Assistant Director of Science Service, Dominion of Canada. At Ottawa, Ontario, Canada, June 6, 1956.

DUNAVAN, DAVID 61. Associate Professor of Entomology and Associate Experiment Station Entomologist, Clemson College, South Carolina. At Montreal, Canada, August 20, 1956.

KINSEY, ALFRED C. 62. Professor of Zoology and In Charge, Study of Human Sex Behavior, University of Indiana. Second Vice-president Entomological Society of America, 1937. In Bloomington Hospital, Bloomington, Indiana, August 25, 1956.

MCINDOO, N. E. 75. Retired Entomologist, U. S. Department of Agriculture. Fellow in the former Entomological Society of America. In Washington Sanatorium, Takoma Park, Maryland, September 7, 1956.

NEWTON, JOHN H. 63. Experiment Station Entomologist, and former Deputy State Entomologist, Colorado A. and M. College. At Paonia, Colorado, July 16, 1956.

TOWER, WINTHROP V. 75. Retired Entomologist, who spent 36 years working in Puerto Rico. In Melrose Hospital, Melrose, Massachusetts, May 6, 1956.

ZOOLOGICAL NOMENCLATURE

Notes

Notice of proposed use of the Plenary Powers in certain cases for the avoidance of confusion and the validation of current nomenclatorial practice
(A.(n.s.)30)

Notice is hereby given that the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers is involved in applications relating to the under-mentioned names included in Part 6 and Double-Part 7/8 of Volume 12 of the *Bulletin of Zoological Nomenclature*, both of which Parts will be published on 24th August 1956:

(a) *Applications in Part 6 of Volume 12*

Campsicnemus Haliday, 1851, validation of (Class Insecta, Order Diptera) (Z.N.(S.)1080).

(b) *Applications in Double-Part 7/8 of Volume 12*

Elaphella Bezzi, 1913, and *Lophiotherium* Gervais, 1850, validation of (Class Mammalia) (Z.N.(S.)1077).

Any specialist who may desire to comment on any of the foregoing applications is invited to do so in writing to the Secretary to the International Commission (Address: 28 Park Village East, Regent's Park, London, N.W.1., England) as soon as possible. Every such comment should be clearly marked with the Commission's File Number as given in the present Notice. Any comments on the applications published in this Part should reach the Secretariat of the International Commission at the latest by 24th February, 1957.

FRANCIS HEMMING

*Secretary to the International Commission
on Zoological Nomenclature*

15th August, 1956

We have included only insect names here. The notice as sent out contained five other entries. It has been brought to our attention that there is an error in the second entry above. *Elaphella* Bezzi, 1913 is Class Insecta, Order Diptera, while *Lophiotherium* Gervais, 1850 is Class Mammalia.

